Canadian Operating Room Nursing Journal

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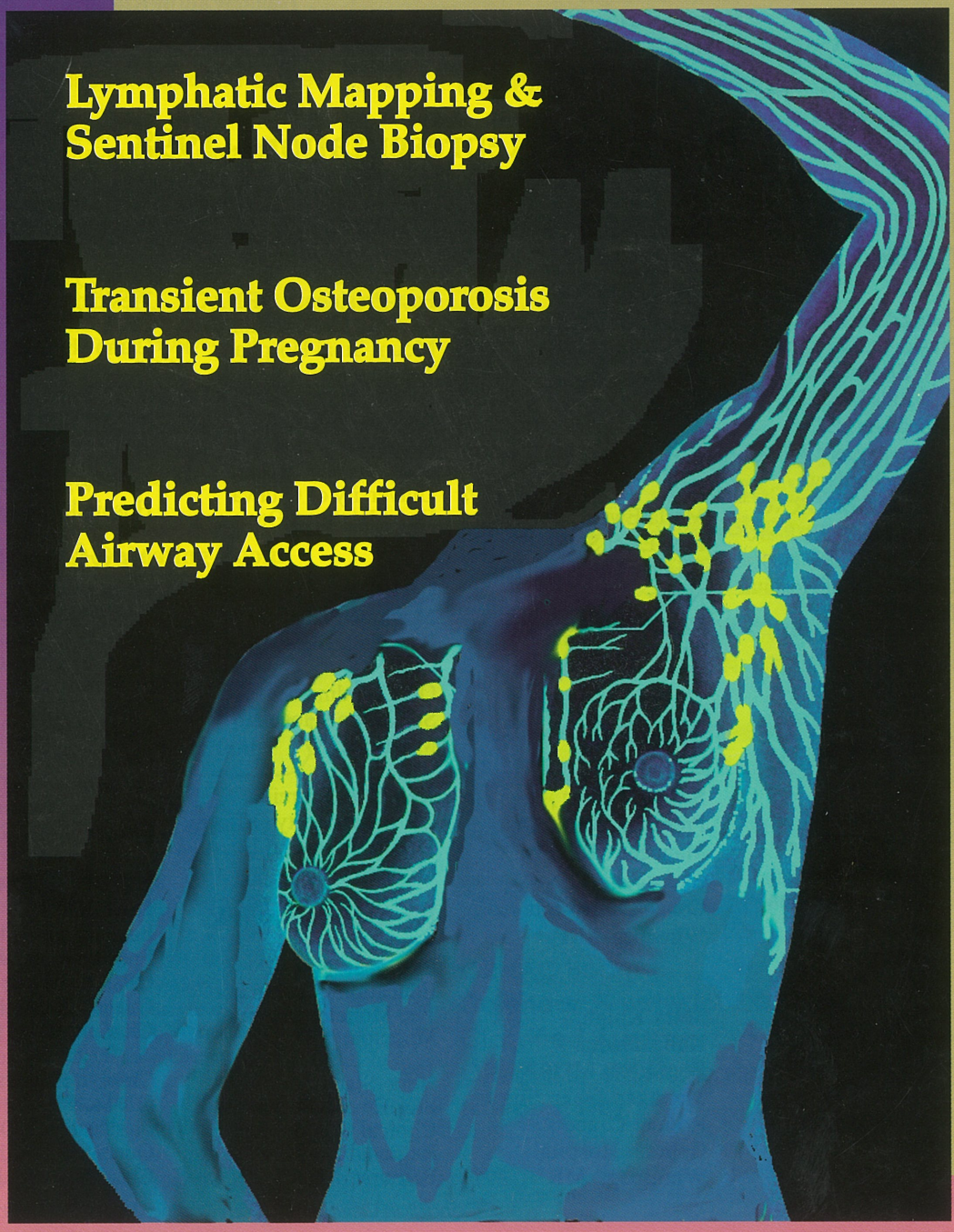
Lymphatic Mapping & Sentinel Node Biopsy

Transient Osteoporosis During Pregnancy

Predicting Difficult Airway Access



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Carpe Diem! "Seize the Day"

By Donna Farid, RN, PGOR, CPN(C)

The message could not have been made more clear at the 1998 CNA Biennium and National Nursing Forum in Ottawa last June. The theme of the National Nursing Forum "From Voice to Action: A Nursing Agenda for a Healthier Canada" was firmly reinforced by the two speakers who set the tone for the day. Joan Marie Aylward, Health Minister from Newfoundland, and who, by the way, still maintains her RN License, urged nurses to work together in delivering a clear message promoting the value of our work, and protecting our publicly funded health care system. Dr. Patricia McKeever, from the University of Toronto, addressed the issue of the burden of home care falling on the shoulders of unpaid family members - mostly women - who are "footing the bill for the bricks and mortar of our health care system", making for additional inequities. Participants divided into smaller groups, reviewed the strategies developed at the first Forum, identified further projects and concluded by discussing what was the most important message for nurses to be sending within the next six months.

The three day Biennial Conference followed the Forum with a powerful roster of speakers, all with the same prevailing message. Allan Rock, Minister of Health, spoke of the role RNs have to play in primary health care reform. He announced that a new position will be created in the National Ministry of Health, that of Executive Director of Nursing Policy who will answer directly to the Minister himself, and will represent nurses' decisions and advice in home and community care. He also acknowledged that the existing and increasing nursing shortage, and the lack of full-time and fulfilling jobs for RNs must be addressed.

The Honourable Monique Begin, keynote speaker, went on to say that "nurses have lost the most in health care changes, and have witnessed the deprofessionalization of their profession." She stated that this has become a major quality and safety issue. "If care is fragmented, it is lost, and quality care requires both time and continuity." There is no evidence that de-skilling saves money, since less qualified and unregulated staff require more supervision. She reinforced this statement by saying that de-skilling was a "waste of human resources - a waste of the expertise of nurses."

At the same time, nursing staff is under growing pressure to cope with more acutely ill patients for whom more knowledgeable health care providers are needed. Provincial governments have a major challenge to make education for nurses more accessible since student enrolment in nursing has declined dramatically.

Mme. Begin also stated that professional boundaries: roles, names, titles, must be clarified and that the public, the media, and educators must be informed regarding these clearly distinguished roles.

In conclusion, Mme. Begin advised the audience that "Canadian nursing has enormous power, but it must be exercised. Advocacy for quality nursing practice must be promoted by nurses at all levels."

Another topic presented was "Developing Political Savvy" where a panel of experts from nursing, the

Donna Farid is President of the Operating Room Nurses Association of Canada. She is Staff RN, Cardiovascular Surgery, Queen Elizabeth II Health Science Centre, Halifax, Nova Scotia.

media, and government offered invaluable advice by identifying spheres of political action, some guiding principles, and lobbying strategies. Senator Lucie Pepin, the government representative summarized by saying "you have to make yourself heard, your power belongs to you, don't let anyone take it away."

I wish more perioperative nurses had been there, to be motivated by such powerful messages, and to be given the incentive to become more active in promoting our specialty and our profession. In two other sessions, a discussion group on human resource planning and nursing recruitment and in a presentation to nursing students by specialty groups (in which we participated representing ORNAC), it became clear that there is so much more work to do in educating others (even nurses) about perioperative nursing.

In conclusion, to quote Lynda Kushner Pekrul, CNA's new President, "That nurses today make a difference is a given, that nurses can and will make even more of a difference within the future and changing health care system is inevitable - we just have to get on with it!" **Carpe Diem!**

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1998 Standards Note

A typographical error on page 167, the position should read as follows:

Lateral Rt. - patient lying on the right side
Lateral Lt. - patient lying on the left side

The Standards Committee wishes to apologize for any inconvenience this may have caused.

Transient Osteoporosis During Pregnancy: The Perioperative Nurse's Role

By Antoniette Labricciosa R.N., B.Sc.N., CPN(C)

Perioperative nurses are confronted with ever changing demands in their daily practice. Perhaps the greatest challenge is in the care of patients with multifaceted health care problems. These patients require the coordination of many multi-disciplinary health care team members in achieving optimum health.

This paper will describe the etiology and a case study of a patient with transient osteoporosis during pregnancy. The disease process known as transient osteoporosis, the regime of treatment, and the role of the perioperative nurse in coordinating the patient's perioperative care will be discussed. The patient is a 28-year old, 26-week primip who presented to a tertiary health care centre with spontaneous bilateral fractures of the hip of unknown origin. The complexity of the case, that is, unilateral versus bilateral, was further complicated by the information that the patient was in the early part of the third trimester of pregnancy when she presented to hospital with bilateral displaced subcapital femoral neck fractures.

Abstract

Perioperative nurses are confronted with ever changing demands in their daily practice. Perhaps the greatest challenge, however, is in the care of patients with multi-faceted health problems. These patients require the coordination of many multi-disciplinary team members in attempting to achieve optimum health.

This paper will describe the case study of a 28 year old, 26 week primip, who presented to a tertiary care centre with spontaneous bilateral hip fractures of unknown origin. It will further discuss the disease process known as Transient Osteoporosis during Pregnancy, the surgical approach, and finally, the role of the perioperative nurse in coordinating the patient's perioperative care.

A chart review revealed that the patient had started to develop pain in her left groin two months prior to presentation to hospital. Two weeks after the initial onset of pain, she started experiencing pain in her right groin. Over the next two months, the pain progressed to the point where the patient was unable to walk, even when using a walker. She was mainly wheelchair bound for one-and-one half weeks prior to hospitalization. Unfortunately, and while at home alone, the patient collapsed while in the shower. She was able to get herself into a squat position, but no farther. She was found in this same position several hours later by a family member.

Radiologic films were taken immediately upon presentation to the local hospital and revealed completely displaced fractures of the neck of both femurs. The x-rays also demonstrated osteoporosis in the proximal femurs of both hips. A physical exam revealed no evidence of generalized metabolic bone disease or hyperparathyroidism. The patient's history was negative for any bone abnormalities, fractures, endocrine abnormalities, renal problems, cardiac and respiratory problems, or previous surgery. The patient also presented with decreased flexion and extension of both hips, and decreased external and internal

Author

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rotation of both lower limbs.

The differential diagnosis based on the patient's physical exam and clinical findings included osteoporosis, tumour of the femoral necks, and metabolic bone disease. The medical plan of action included admission for surgical repair of both hips and consultation with the High Risk Obstetrical Service, Anaesthesia, Endocrinology, and Occupational Therapy.

Consultation with Other Disciplines

Once surgery was decided upon, the challenge for the perioperative nurses was in the difficulty of coordinating the resources required to meet the complex needs of the patient. The recurring common denominator, as resources were coordinated, was that the patient was physiologically, vastly different from the usual patient population undergoing surgical repair of femoral neck fracture. This patient was young, healthy, and 26 weeks pregnant. In attempting to provide exceptional perioperative care to both mother and baby, several multidisciplinary team members were consulted. The coordination and collaboration which ensued provided for excellent theory and research-based care.

Hawkins (1995), in an article entitled, "Anaesthesia for the Pregnant Patient Undergoing Non-Obstetrical Surgery," suggests that surgery during pregnancy is not an uncommon event.

Many procedures, including ovarian cystectomy, appendectomy, and cervical circlage, have been performed successfully during pregnancy. One of the major goals in maximizing the safety of both the mother and fetus is the prevention of preterm labour. Mechanical shifting and trauma to the uterus, often encountered during abdominal and pelvic surgeries, may initiate postoperative premature labour and potentially, fetal death. Measures must also be taken to maintain fetal well-being during the perioperative period. Placental blood flow, for example, decreases with maternal hypotension, pain or apprehension. Avoidance of hemodynamic changes, such as hypotension, and decreasing the mother's response to pain stimulus, fear, and anxiety, are primary goals for the care providers. The perioperative nurses, as members of the multidisciplinary team, implemented interventions which were aimed at achieving an optimum fetal environment, prevention of preterm labour, and support of the mother's physiological and psychological needs.

The patient was transferred from the unit to the holding area of the Operating Room on her bed. It had been decided between the nurses on the patient unit and the nurses in the O.R. that not moving the patient to a stretcher would assist in maintaining her comfort level, this despite the fact that the patient verbalized the ability to mobilize quite easily. The patient's husband accompanied her to the O.R. and expressed a wish to remain with his wife. The holding area was vacant except for this patient. This request was readily agreed upon as it was felt that this would assist in maintaining the patient's emotional well-being.

Minimizing the Patient's Pain, Fear, and Anxiety

Upon arrival to the preoperative holding area, the patient was routinely admitted to the O.R. Her identity was confirmed, and the chart reviewed for the appropriate surgical consent, NPO status, laboratory test results, and existing food and drug allergies. The patient was able to verbalize a complete understanding of the planned procedure, and her questions regarding anaesthetic and surgical outcomes were directed to and answered by the anaesthetist and surgeon respectively. She went on to describe that this was a much wanted pregnancy, but that she had no idea that the pregnancy would result in the fracturing of both her hips. She was quite concerned about the baby's well-being intraoperatively. Her fears were allayed by providing her with relative information regarding the safety on the anaesthetic and the measures which would be taken to ensure the baby's safety during her surgery. This included explaining to the patient that she was well beyond the first trimester, or the period when the fetus is most susceptible to teratogenic factors. Once again, the goal was to minimize the patient's anxiety.

In addition to admitting the patient, Radiology, Obstetrics, Anaesthesia, Surgery, and the Post Anaesthetic Care Unit nurse (PACU) were assembled. A radiology technician had already prepared and assessed the functioning of the Image Intensifier C-Arm and monitor to be used for the intra-operative fluoroscopy. The major concern was the potential damage to the still developing fetus (at 26 weeks) from radiologic imaging. According to documentation in the literature, proper shielding permits exposure with a decreased risk to the fetus, as compared to non-shielding (Brodell et al., 1989). The technician suggested not only placing a lead apron over the patient's abdomen, but also suggested the placement of one under the patient's torso. This was done in an attempt to maximize protection of the fetus from the radiation emitted during the procedure, both in the lateral and AP (Anterior-Posterior) positions. Intraoperatively, exposure was limited by allowing the x-ray technician to expose (control) the fluoro image. This would assist in decreasing any excessively long exposure time in the lag period between the decision to fluoro and the action, if it had been performed by the surgeon.

An obstetrician and resident on call had assessed the patient preoperatively. The decision was made not to provide external fetal monitoring in the O.R., but to have monitoring in the PACU. The PACU nurses arranged for a fetal monitor from our Labour and Delivery Unit for the immediate postoperative period. A Labour and Delivery Unit nurse would supervise the locating of the fetal heart, application of the monitor, and would remain with the patient until a base line fetal heart rate was established.

Anaesthetic Consultation and Assessment

The anaesthesia requirements were based on the preoperative anaesthetic consult and assessment of the patient, and the needs of the patient during the periopertive period. The pros and cons of general and regional anaesthesia were discussed with the patient and her husband. The goal of the anaesthetic was to avoid maternal hypotension, hypercarbia, and hypoxia, and minimize pain response. The normal sympathetic response to pain and anxiety is an increase in catecholamine release. This increase, in turn, results in maternal vasoconstriction and constriction of the uterine and placental vessels. A decrease in uterine blood flow and perfusion can potentially lead to fetal acidosis, hypoxia, fetal distress, and/or fetal death (Hawkins, 1995). In order to minimize the possibility of hypoxia and its potential adverse effects on both the mother and baby, a combined general and regional anaesthetic was decided upon. The advantages of the regional anaesthetic (epidural) included its safety, a decrease in blood loss intraoperatively, a minimizing of the total amount of general anaesthetic required, and therefore, a minimizing of fetal drug exposure, and finally, the ability to extend the effects of analgesia into the postop phase without the administration of large amounts of narcotics. The general anaesthetic, with its controlled ventilation, provided assurance of adequate oxygenation of the mother. It was also an excellent option due to its relative safety for mother and baby, the ability to provide intraoperative muscle relaxation, and the mother's preference to be asleep in view of the potential length of the surgery.

Two Separate Instrument Set-Ups

After consulting the orthopaedic surgeon and based on the sarcoma program protocol, it was decided that two separate instrument set-ups should be prepared and utilized. This would eliminate the potential for contamination between operative sites, as the underlying pathology and origin of the fractures were still undetermined. The fracture table and its necessary accessories were placed in the appropriate position for bilateral surgery and positioned in the O.R. to meet the needs of both the surgical and nursing staff. This was an additional task for nursing, as there were no ancillary support staff on the weekends and evening shifts.

Once all the multidisciplinary team members had been consulted and the room was prepared, the patient was transferred to the O.R. She was able to mobilize surprisingly well. The patient was easily transferred from her bed to the fracture table using her upper body, and with the assistance of the operative team. Routine monitoring included the application of ECG leads, pulse oximeter, and automatic blood pressure cuff. These monitors, coupled with end-tidal $C0_2$ and $FI0_2$ monitors, provided additional assurance that the maternal/fetal environment was optimal. An I.V. was started with Y-blood tubing through a blood warmer. It is important to monitor fluid/volume status in the event of excessive blood loss and the possibility of maternal hypotension. The patient was turned to the lateral position and given an epidural. Once returned to the supine position, the patient was administered a general anaesthetic using the rapid sequence induction technique. Delayed gastric emptying and displacement of the gastroesophageal junction increase the potential for aspiration during induction in pregnant women. Some anaesthetists would suggest administering an oral antacid as a pre-medication.

This often helps combat 'heartburn' and regurgitation symptoms many women experience, and may be used as a prophylactic agent against aspiration pneumonitis (Hawkins, 1995). A foley catheter to straight drainage was inserted. Following induction, the nursing and radiology personnel placed lead aprons over and under the patient for maximum shielding of the baby. Warm blankets were placed over the patient's upper body and head. The patient was positioned on the fracture table by the surgical team for fixation of

the left femoral neck, followed immediately by re-prepping and draping, and sterilization of specialty instruments for the repair of the right femoral neck. The contralateral limb was placed in extension on the fracture table.

Case Challenges

While the patient's intraoperative course was normal and uneventful to this point, the challenges to the perioperative nurses continued. The perioperative nurses had been able to assemble two sets of complete basic orthopaedic set-ups; but the instruments required sterilization between the two fixations as only one set of hip pinning instrumentation is owned by the institution. Additionally, it was necessary to confirm that duplicates of all potentially implanted plates and screws were available. Initial and final counts, positioning and repositioning the patient's legs in traction, scrubbing, prepping, and draping, rescrubbing, gowning and gloving, changing instruments and setups, attending to the anaesthetist, and moving the C-arm and monitor, were just a few of the activities that contributed to the normal intraoperative nursing actions. Femoral reamings from both the right and left femoral head were sent to pathology for tissue diagnosis. Hemovac drains were inserted, one to each operative site. The wounds were closed and dressed with pressure dressings. The patient was transferred via her own bed to the PACU.

Upon arrival in PACU, routine monitoring plus fetal monitoring was implemented. The patient exhibited good motor and sensory response in her lower limbs with no numbness. CSM (circulation, sensation, and movement) were reported as good and dorsalis pedal pulses were felt bilaterally and strong. The fetal heart tracing was examined by the obstetrical resident and showed good long and short term variability with no decelerations. The rate was 150-160 beats per minute.

The patient's postoperative course of recovery was speedy. The drains and foley were discontinued postoperative day 2. The epidural was removed postoperative day 3 with pain management continued by oral analgesics. Fetal monitoring continued twice daily throughout her postoperative stay in hospital. Extensive occupational therapy consults prepared the patient and her family for her discharge home and managing the activities of daily living with non weight-bearing limitations until and after the baby was born.

Pathology reports indicated that both the right and left reamings showed marked haemorrhagic changes which were compatible with osteonecrosis. There was no evidence of inflammation or malignancy in either sample. The diagnosis of transient osteoporosis in pregnancy with superimposed pathological fractures of the hips bilaterally was established by exclusion of other possible diagnosis.

The patient was booked for an elective caesarian section at 39 weeks due to the less than optimal surgical fixation. However, the baby was in the breech position, and the patient experienced a spontaneous and premature rupture of membranes at 37 weeks. A caesarian section was performed, and a healthy baby boy with Apgars of 9 and 9, weighing 3629 grams, was delivered.

Disease Discussion and Treatments

The irony of this case study is the fact that the picture most often associated with osteoporosis is a very different patient from the patient in this scenario. Osteoporosis, in the classic sense and as it is understood, is a disease process whereby bones lose strength, bone density, and become fragile to the point where fracture may occur. In both men and women, bone mass reached its highest level in young adulthood between the ages of 30 and 35 years old. There is then a steady decline in bone mass after this age. Women experience a more accelerated bone loss than men. This loss, as shown in recent studies, is a result of estrogen deficiency. Declining estrogen levels have been indicated as the major cause of bone loss during the first twenty years after menopause. In fact, by the time women reach 90 years old, they will have experienced a loss of 20% of their cortical bone mass as compared to less than 5% bone loss in men (Riggs and Melton, 1988).

Osteopenia is the term used to identify a decrease in bone density or mass. Bone mass, in turn, can be affected by several factors. These include genetics, endocrine, and nutritional and mechanical determinants.

In terms of mechanical factors, it can be assumed that bones and muscle are quite similar. Muscles will atrophy when not used or exercised. This theory has been suggested as a means of preserving bone mass, as well.

Vitamin D and Calcium are important in bone growth and maintenance. Our bodies require these important nutritional components both during the building of our skeletons, and later in life when our intake is insufficient to meet the body's needs for vitamins and minerals. But the body's regulating mechanisms will function so as to maximize the availability of extracellular calcium, even at the expense of breaking down our skeletal stores. Even previous surgeries, as thyroidectomy and gastrectomy, can either affect the amount of calcium produced or the absorption of Vitamin D and Calcium (Riggs and Melton, 1988).

Fractures which result due to osteoporotic bone occur at common sites. These include the neck and intertrochanteric regions of the proximal femur and the vertebral body. Most hip fractures occur among older people (about 90%), and are the result of mild trauma, as a fall to the floor. Hip fractures are more uncommon in the young person, and are usually associated with severe trauma, like car accidents. The National Osteoporosis Foundation (1996) identifies several risk factors for developing osteoporosis. Those risk factors include age, gender, race, bone structure and body weight, onset of menses/menopause, family history, medications and disease. In women, bones also weaken with age faster because women have less bone tissue than men. Women who are small-boned and small in size, those who smoke, drink, do little or no weight bearing exercise, have a family history of osteoporosis, or those with specific endocrine disorders, are at risk for developing this disease.

A recent review of medical literature on the topic of transient osteoporosis in pregnancy describes a disease process which is quite different than the description of osteoporosis provided by the National Osteoporosis Foundation.

Case Studies

Brodell et al.,(1989), in the Journal of Bone and Joint Surgery, describe two cases of TOH (Transient Osteoporosis of the Hip) complicated by fractures. The first case involved a 31 year old multip (G2P2) admitted to hospital during the 30th week of pregnancy with a two month history of increasing pain in the groin and medial right thigh. She had limited range of motion and it had become increasingly difficult to weight bear. Radiological findings demonstrated significant osteopenia and bone loss of both femoral head and neck. After a week of bedrest and buck traction to the right lower limb, she was discharged home on crutches and non weightbearing on the right leg. While the right side improved, the left hip became painful. The patient was confined to a wheelchair until the delivery of a healthy baby boy. Radiological films at one month post partum showed healing bilateral superior rami fractures and improved density in both hips.

The second case describes a 31 year old primip who presented with increasing pain to the right groin starting at five months gestation and progressing throughout the duration of the pregnancy. Two days post partum, xrays of the pelvis showed advanced osteopenia of the right femoral head, neck, and acetabulum with subcapital fracture. The patient eventually underwent surgery using a nail and side plate for fixation with good results.

The authors of this article suggest that almost all of the documented cases of TOH have been women in their late twenties to early thirties. The women were usually in their third trimester of pregnancy. The clinical picture consists of severe pain which develops in the groin and thigh. Associated pathological fractures may occur. The radiological findings are consistent with severe osteopenia which may involve the hip, pelvis, or spine. Clinical laboratory findings are normal. Patients show marked improvement after delivery of the baby.

What causes Transient Osteoporosis during pregnancy?

Several theories are identified in this article suggesting a cause for TOH. One theory hypothesizes that the increased need for calcium during pregnancy and for lactation can increase the demand on the maternal skeletal stores. The argument, however, is that even severely malnourished women are physiologically able to provide adequate amounts of calcium for the developing fetus. This is achieved by means of complex hormonal regulating mechanisms, and by the fact that calcium and Vitamin D supplementation, and increasing intake of high calcium foods and beverages (milk) are encouraged during pregnancy (Dunne et al., 1993).

Some other theories suggest viral, inflammatory, arthritic, or traumatic underlying factors. In addition, it has been suggested that the increasing body weight of the third trimester might cause undue stress on the acetabulum and pelvis. This theory is also debated due to the fact that bones are not static. Bones are able to dynamically adjust to the use and stressors to which they are subjected (Brodell et al., 1989).

An additional report identifies a Japanese woman who had osteoporotic hip pain which resolved immediately following a therapeutic abortion in the first trimester. This report suggests that both hormonal and endocrine factors may be involved in this tran

sient process (Brodell et al., 1989).

Another interesting finding, as documented in an article entitled "Pregnancy Associated Osteoporosis", is the reported higher incidence of fracture at a younger age in the mothers of TOH patients as compared to a control group. Sixteen mothers of the 29 women found to have pregnancy induced osteopenia, as compared to 7 mothers of women in the control group, were found to have had fractures. The majority of those mothers fractured before 45 years of age. The theory in this article is based on the question of a potential genetic link in identifying this as a pre-existing condition (Dunne et al., 1993).

While many theories have been suggested in determining the cause of TOH, the condition, its treatment and prevention remain a puzzle. There appears to be limited documentation of TOH in the literature. In fact, Goldman et al., (1994), in the International Journal of Gynaecology & Obstetrics, suggests that the number of reported cases is 53. This small number may be the result of the fact that common complaints of pregnant women include hip and back pain, and these complaints are regarded as part of the normal progression of pregnancy. The reluctance to order radiological imaging during pregnancy has also made diagnosis difficult. The International Commission on Radiation Protection stresses the need to keep radiation doses to unborn children as low as possible. Studies have suggested a possible link between prenatal radiologic exposure and an increased risk of childhood cancer. Recommended practices for employees include decreasing the amount of time spent in the radiation area and proper shielding. In the case of the patient in discussion, intraoperative shielding and exposure limiting, and postoperative films with abdominal and pelvic shielding, also assisted in lowering these risks.

Conclusion

The question remains as to whether pregnancy is indeed a causative factor or a poorly timed event in the progression of TOH. While many theories have been identified, the priorities for the perioperative nurse in treating the pregnant patient remain well-defined. These include minimizing the patient's pain, fear, and anxiety. Reassuring the patient regarding the safety of the anaesthetic and surgery are measures which can reduce the patient's apprehension, especially in the preoperative phase. Minimizing aortocaval compression by means of uterine displacement, achieved by placing a roll under the right side of the patient's torso, is one way of promoting adequate blood flow to the fetus. Fetal monitoring intraoperatively can also be an excellent indicator of the mother's oxygenation and pressure. Perhaps the most important priority for the perioperative nurse is in the consultation with other health disciplines. Actions such as intraoperative fetal monitoring and patient positioning resulting in uterine displacement, are not always possible. These are often dictated by the type and nature of the surgery.

Preoperative planning with anaesthesia, surgery, patient unit and PACU nurses, and obstetrics, can amalgamate the multitude of ideas which will optimize the surgical experience for the patient and the fetus.

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Overheard in the OR...

Tell me what you need, and I'll tell you how to get along without it !

Predicting Difficult Airway Access in the Preoperative Clinic

By Sue Leddy, R.N., B.Sc.N., C.P.N.(C)

Recent changes in the health care system have led to more complex surgeries being done on more complex patients on a day surgery basis. To ensure adequate preoperative assessment, screening, testing, and preparation of surgical patients, the Pre-Admit Clinic has evolved.

At the Pre-Admit Clinic, the following data is collected and reviewed:

- surgeon's physical and history
- surgical consent
- patient history (using Pre-Anaesthetic Questionnaire)
  - prior surgeries and anaesthesia
  - list of medications, allergies
  - social history
- review of systems
- physical examination
  - vital signs
  - height and weight
  - cardiac and respiratory system examination
  - any other system examination warranted by the history
- laboratory testing (condition specific)
- investigative tests if required based on patient's conditon
  - EKG
  - Pulmonary Function Test
  - Chest X-Ray

The Pre-Admit Clinic nurse ascertains the patient's present health status, and the stability of any existing problems. Referrals to the anaesthetist are made as necessary, for further investigation, perioperative risk assessment, and/or anaesthetic management planning.

In addition, the Pre-Admit Clinic nurse intervenes to reduce patient anxiety through education. The patient is taught regarding:

- anaesthesia method of choice
- preoperative preparation required (shaves, scrubs, preoperative medication, etc.)
- intra-operative procedures
- postoperative care including pain control, activity, diet, dressing and wound care and follow up.

One area of assessment at the Pre-Admit Clinic that has been slower becoming established is that of preoperative Airway Assessment, to predict the difficulty of airway access and management in the Operating Room. Often the patient is not seen by the Anaesthetist until the moment of surgery, and planning and management of difficult airway is not facilitated in this way. The Pre-Admit Clinic offers the opportune time for a full Airway Assessment to occur.

Estimates of the incidence of difficult intubation under controlled conditions in the Operating Room vary widely, depending on the definition used, patient population studied, and skill of the operator. The frequency of failed intubation is thought to be approximately 1 in 500, (Deem and Bishop, 1995). These failures also increase the patient's risk for morbidity and mortality.

Author

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Most difficult intubations can be predicted, but approximately half of those predicted to be difficult will be easy, (Lewis et al, 1994). Some difficult airways will be missed with preoperative assessment, and many will be identified falsely positive, but assessment of airway in the preoperative setting does much to screen for problems, and will promote proper planning and management. A number of airway screening methods exist, but studies have shown that the predictable value is greater if a combination of a number of factors is assessed. The following is one method of performing airway assessment, but the author acknowledges that there are others as well.

Performing the Airway Assessment

1. Take Patient History

The history taking should be focused on aspects that relate to airway management. Ask about previous surgeries and anaesthesia. Try to determine if the patient has undergone successful intubation previously. Some surgeries do not require intubation. The patient who previously underwent D & C may have been bag and mask ventilated, but now that she has presented for a laparoscopic tubal, she will be intubated.

Ascertain the existence of conditions that can predispose to difficult airway access, such as obesity, pregnancy, neck contracture, etc. See Table 1. for a more detailed explanation of pathology to watch for.

2. Assess Neck Range of Motion

With the patient in a sitting position, ask them to flex and extend their neck. This assesses the mobility of the C-Spine, which is required in intubation. Be alert for history of previous fractured or fused neck, arthritis, diabetes, surgery, or any other condition that may limit this movement.

3. Assess Temporomandibular Joint Mobility

Determine if history of pain, joint noises, jaw locking, or previous trauma. Ask the patient to open their mouth as wide as possible. Assess the number of fingers you can fit into the mouth opening. The measurement can be documented in fingerbreadths, and should be at least two. Limitation of mouth opening may be caused by tight TMJ ligaments from IDDM, trauma, TMJ dysfunction or arthritis, or trismus (painful mouth opening) due to intra oral inflammation. All of these can cause diminished access to the larynx.

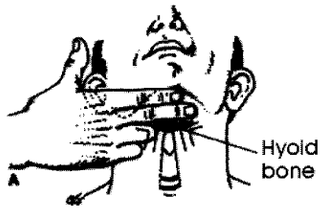
Place your index finger bilaterally preauricularly, and ask the patient to open their mouth wide. You should feel your index finger fall into a depression as the mouth opens. Listen for clicks, pops, or crepitus as the mouth opens.

4. Measure Thyromental Distance

The thyromental distance is the potential retro mandibular space into which the laryngoscope can displace the tongue. Viewing the patient from the side, and with the neck fully extended, place your fingers under the patient's chin, from the thyroid notch (Adam's Apple), to the mentum (lower border of the chin). The number of fingers you can place side by side between these structures is documented as the Thyromental distance. It should be over 6 cm, or three fingerbreadths. Causes of decreased thyromental distance may be micrognathia, anteriorly positioned larynx, scars, neck masses, or C-Spine abnormalities limiting extension.

5. Assess dentition

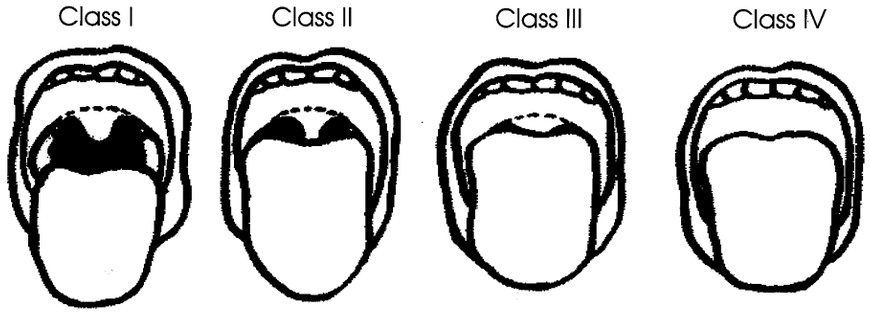
Identify and document any loose teeth, capped teeth, dentures or bridges. The edentulous patient will afford easier visualization of the larynx. Overbiting and prominent upper incisors often signal a small thyromental distance and micrognathia but may be purely dental and will increase the risk of trauma to these teeth at laryngoscopy.



From J.L. Benumof, 1993

6. Assess Hypopharyngeal Classification Using Mallampati Score

With the patient in sitting position, have them either extend neck, or assume sniffing position. Ask the patient to open their mouth as wide as possible, and extend their tongue forward. Tell patient not to say ahhh. Phonation is not desired initially, but can be done to incease the structure visibility if a grade III or IV was noted. Using a small flashlight shining into the open mouth, and with your eye level at the mouth, visualize the pharyngeal structures. The view is then graded.



Mallampati I soft palate, uvula, fauces and pillars visible
Mallampati II soft palate, uvula, fauces visible but pillars obscured
Mallampati III soft palate only visible
Mallampati IV soft palate not visible

Nurses working in the Pre-Admit Clinic are comfortable with physical assessment and history taking, and have a broad depth of knowledge upon which to draw when assessing the patient for surgical readiness. The addition of Airway Assessment to their repertoire will add to the thoroughness of the preoperative assessment.

Table 1 Pathologic Conditions That Can Potentiate Difficult Airway Access

Condition	Difficulty
Congenital Anomalies: micrognathia, Pierre Robin Syndrome, Cleft Lip, Cleft Palate, Trisomy 21	Anatomical distortion of airway
Inflammatory: epiglottitis, Ludwig's angina, retropharyngeal abscess	Distortion of airway. Can make ventilation or intubation very difficult.
Rheumatoid Arthritis	Flexion-extension limitation, absent Crico-arytenoid calcification. Impossible to visualize larynx and airway lumen narrowed. Danger of C1-C2 dislocation due to erosion of transverse ligament around the dens
Ankylosing Spondylitis	Fusion of cervical spine can prevent direct laryngoscopy
Cervical Osteo-Arthritis	C567 osteophytes - reduction of movement. Difficulty visualizing and reaching cords.
Fracture of maxilla, mandible	Airway obstruction, difficult bag and mask ventilation, difficult intubation
Fracture of Cervical Spine	Unable to extend neck. If unstable, may damage spinal cord. Poor visualization of cords.
Endocrine Causes	Acromegaly: large tongue, bony overgrowths. Goiter: can produce airway compression or deviation. Hypothyroidism: large tongue, abnormal soft tissue, hard to ventilate and intubate
Neoplasia: pharyngeal, laryngeal tumors	Inspiratory obstruction with spontaneous ventilation
Diabetes: IDDM	"Stiff joint syndrome" with decreased mobility of neck with extension and flexion
Obesity: Sleep Apnea	Desaturate quickly, upper airway obstruction on induction, large chest makes it difficult to manipulate laryngoscope to view structures.
Radiation therapy	Fibrosis can distort airway, decrease mobility
Pregnancy	Risk of reflux aspiration, laryngeal edema

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Conference Calendar

November 3 - 6, 1998
27e Conférence provinciale - 27th Provincial Conference from CIISOQ/CORNQ
"New century ... New Challenges" at Queen Elizabeth Hotel in Montreal, Quebec. Further information Louise B. Vadeboncoeur, 791 de Boulogne, Repentigny QC, J6A 7T7.

June 14 - 18, 1999
16th National ORNAC Conference-Halifax '99
Sheraton Hotel & World Trade and Convention Centre, Halifax, Nova Scotia. Chairperson Donna Farid, President of the ORNAC. Sharon Green, Program Chair.

July 25-30, 1999
World OR Conference. Helsinki, Finland.

April 20-27, 2001
17th ORNAC Conference - Banff, Alberta.
Conference Chairperson- Gloria Nemecek.

Early Detection Makes A Difference

The best weapon against breast cancer is early detection. The Canadian Cancer Society recommends that a woman have a mammogram every two years after age 50, have their breasts checked annually by their doctor and practise monthly self-examination (BSE).

Women and their families can obtain current, up-to-date information about breast cancer by calling the Canadian Cancer Society's Cancer Information Service at 1-888-939-3333. The Service is available in English and French, Monday to Friday, 9am to 6pm. A valuable resource for women with breast cancer is the *Canadian Clinical Practice Guidelines for the Care and Treatment of Breast Cancer*. The guidelines, which were released in February 1998 by Health Canada and the Canadian Medical Association Journal, are supported by the Canadian Cancer Society. The guidelines describe expected care at specific points in a woman's experience of diagnosis and treatment of breast cancer. Women can obtain the guidelines by calling the Canadian Cancer Society's Cancer Information Service.

WWW for OR nurses

ORNAC Online http://www.ornac.ca
The Operating Room Nurses Association of Canada (ORNAC) has a web site which provides varied information on perioperative nursing in Canada. Members of ORNAC are working continuously on this website to improve it. Through this site you can access several other nursing sites and keep up to date on what is happening in Canada.

AORN ONLINE http://www.aorn.com
This website provides access to the American OR journal, reference library, and current events affecting nurses in the USA.

AORN Clinical Online Consultative Service http://www.aorn.org/CLINICAL/ONLINE
This online service is available to all members of AORN. You can submit questions regarding AORN standards, and suggested practises. The consultants online are good about sending back information to you, and within days.

PERIOP is an electronic forum for perioperative nurses, and those interested in Perioperative nursing. You receive information through email messages. Currently there are over 500 subscribers. This forum allows nurses in rural and isolated areas to network with their peers and get opinions and answers to their questions. It introduces North American nurses to healthcare culture in other parts of the world and lets nurses from that world listen in on our concerns. Once you join this **free service**, you can submit questions to the group.
To subscribe: send a message to listproc@u.washington.edu
Leave the subject line empty.
In the body of the message, type only: subscribe periop Firstname Lastname. Turn off any automatic signature that attaches to your message, as this will confuse the computer. You will receive a confirmation message. Just reply automatically and send back the message. This confirms your subscriptions. Within 24 hours you receive a welcome message indicating a successful subscription. Save this message for future reference, as it will give information such as temporarily stopping the service (when you are on holidays). From then on, the messages will come everyday. This list is maintained by the List Processor at the University of Washington.

In 1998, it's estimated that:

- 62,700 Canadian women will be diagnosed with cancer;
- 19,300 or 30.8% will be diagnosed with breast cancer
- 29,100 will die of cancer
- 5,300 or 18.1% of those deaths will be caused by breast cancer

Lymphatic Mapping and Sentinel Node Biopsy

New Technology for Women's Health

By Nancy L. Welykholowa, R.N., CNOR

Lymphatic mapping techniques have the potential of changing the standard of surgical care of patients with breast cancer. The aim of this article is to provide an overview of this technology and to outline Brandon General Hospital's recent experiences with this new procedure.

Research Data

Lymphatic mapping identifies the sentinel lymph nodes (SLNs) or the first node(s) draining the primary tumor in the regional lymphatic basin. Recent studies have shown that the histologic characteristics of the SLN predict the histologic characteristics of the remaining lymph nodes in the axilla.[5]

Axillary lymph node dissection is an important staging procedure in the surgical treatment of breast cancer.[3] The current standard of care has become more conservative, with breast conservation considered an acceptable alternative to modified radical mastectomy. Lumpectomy with axillary node dissection is the most common approach depending on the patient's clinical presentation and personal preference. Early diagnosis has led to increasing numbers of dissections in which axillary nodes are free of disease (60 - 76%).[4,5]

Axillary lymph nodes are the most common sites of metastasis in breast carcinomas. Metastatic involvement of the axilla is known to progress regularly, from the first, via the second, to the third axillary level or basin with skip metastasis found in only 2% of cases (usually from multifocal tumors). Axillary node status is one of the most important prognostic indicators in breast cancer and is of particular value in the choice of adjuvant therapy (chemotherapy, radiation or combinations of both).[3] If a minimally invasive diagnostic procedure could provide accurate intraoperative staging of the axilla, axillary dissection could be avoided in patients with no involved nodes.

Data demonstrates that patients with ductal carcinoma in-situ or small tumors (less than 1.5 cm.) exhibit a low but significant incidence of metastatic disease and may benefit most from selective lymphadenectomy, avoiding the unnecessary complications of a complete axillary dissection. The predictive value of the sentinel node(s) in these cases was 97.5%.[4] Axillary node dissection may be associated with significant morbidity; including the need for general anaesthesia, postoperative lymphedema of the involved extremity, neuropathy of the arm, seroma formation, formation of a painful neuroma or local wound problems.[5] These complications are associated with increased hospitalizations, increased overall costs and most importantly considerable discomfort and life-style changes for women. Sentinel node biopsy is being developed with the aim of reducing these complications.

Lymphatic mapping and SLN biopsy is most effective when a combination of Lymphazurin blue dye and a filtered technetium-labelled sulfur colloid is used. A SLN is defined as any blue and/or "hot" node which is detected with the gamma probe of the Navigator Gamma Guidance System.[4]

Abstract

The current surgical standard of care for the management of invasive breast cancer is the complete removal of the cancer with documented negative margins by either mastectomy or lumpectomy followed by complete axillary lymph node dissection. These procedures can be associated with significant morbidity which leads to increased hospitalizations, increased overall costs and considerable discomfort and life-style changes for the patients.

With sentinel node identification and biopsy, patients with probable negative lymph nodes may avoid axillary dissection, and easily be treated as outpatients

Author

Nancy L. Welykholowa, RN, CNOR is an OR Nurse Educator, Brandon General Hospital, Brandon, Manitoba, Canada. She has 28 years of varied experience in Emergency Departments and Operating Rooms throughout Canada, Europe and the United States. She is President of the Brandon Area Chapter of the Manitoba Operating Room Nurses Association.

Brandon General Hospital's Trial

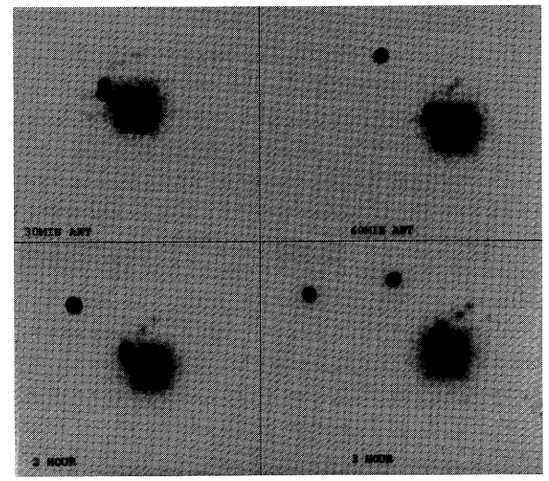
Our Operating Room at BGH has recently had the opportunity to trial this exciting new technology. Intradepartmental networking between Surgeons, the Nuclear Medicine department, Pathologists, OR Nursing Personnel and the Navigator Systems Sales Reps took place prior to the surgical date. Procedures and timings were coordinated, and questions and answers were obtained. Tracking forms were developed. Enthusiasm was contagious.

Research indicates that approximately 10-20 procedures are required for a Surgeon to attain competency in the procedure. Therefore, during the training phase for this procedure, the protocol should include removal of the SLN followed by complete axillary lymph node dissection to validate the actual rate of skip metastasis and the Surgeons capacity to identify the SLN.[4]

The morning of the surgeries we were given an inservice by the Provincial Radiation Safety Officer. She supplied us with a protocol to follow and informed the staff that the amount of radioactive tracer injected was extremely low and does not represent a hazard to OR personnel. The radiation field in the patient's immediate environment is negligible and therefore it's not necessary to wear radiation dose monitor badges. The tissue in the tumor area, SLN, other nodes and body fluids (blood, lymph) will have some radioactive content and are a potential source of very low-level radioactive contamination. Operating Room staff are well protected from radioactive contamination on their skin through the normal wearing of protective clothing, gloves, OR gowns and the use of Universal Precautions.[2]

We had two breast cancer patients scheduled for the trial. Our first patient had a needle aspiration which revealed carcinoma with mitotic figures. Consent was signed for lumpectomy and axillary node dissection. Our second patient had a right infiltrating lobular carcinoma with a 1.7 cm. lump. She also had carcinoma of the thyroid. She chose to have a right mastectomy and axillary node dissection and at her request also a left mastectomy. On the day prior to the surgical date, the patients were brought to the Nuclear Medicine department to have the tracer injected subdermally, close to the tumor site. Scintigraphic images were then taken of the breast and axilla. Figure 1 is an example of four time-progressive Scintigraphic images of a breast lump with smaller sentinel nodes. These images map out over time the lymphatic drainage of the breast lump. The smaller black forms, which progressively appear at one and three hours after the radiocolloid was injected, represent the SLNs. A mark was placed on the skin over the site of the radioactive SLNs by the Nuclear Medicine Physician. The amount of time it took to reach the SLN was noted and the patients were instructed to return on the day of surgery at a time prior to their surgery equal to this interval.

Figure 1



The day of surgery, the patients were again injected with four individually drawn up injections, intradermally, around the tumor site. The patients both stated that these injections were painful, with a

deep burning sensation. The patients then proceeded to the Outpatient department for their admission for surgery. The Lymphazurin 1% dye was injected by the Surgeon before the skin preparation.

The Operating Room had two separate instrumentation trays, one for the lumpectomy /mastectomy and the other for the axillary dissections, so we would not cross contaminate the site of the SLN if it proved to be negative. After the draping procedure, the patients then underwent intraoperative lymphatic mapping using the hand-held gamma detection probe before any incision was made. We draped the probe in a plastic camera cover drape. The lumpectomy procedure was completed first. The axillary incision was made to include the area of greatest radioactivity. The gamma probe was used to confirm the location of the SLN and to guide the dissection when the afferent lymphatics were difficult to identify. The radioactivity level of the node was checked by a 10-second count by the machine. This count was recorded on the tracking sheets. Any other nodes which have radioactive counts of at least 10% of the hottest lymph node are considered to be sentinel nodes also. Notice should also be made of any blue staining of nodes. Our gamma probe worked well, but we initially had difficulty with the blue dye injections as we couldn't see any dye in the lymphatics. We labelled each of the SLNs separately and sent them to Pathology immediately as fresh specimens. The axillary contents were labelled and separately sent as fresh specimens.

Between cases, the Nuclear Medicine department tested the OR theatre and its contents for radioactivity with their Radiation monitor (Berthold LB/23 machine). They swept the OR furniture, floor, instruments, sponges and anesthetic equipment. We were well below the acceptable levels. Our blood soaked sponges recorded the highest readings, and were contained in bags and disposed of in the regular garbage. If any excessive radioactivity had been found it would have immediately been decontaminated by the Nuclear Medicine personnel. Once the theatre was cleared by the Nuclear Medicine department, it and its contents were cleaned in the usual manner.[2]

Results

The Pathology department found the Sentinel node of our first patient to be negative. The remaining axillary nodes were also negative. With the second patient we sent two Sentinel nodes. The "hottest" node proved to be positive with the rest of the axillary nodes negative.

Conclusion

Research results indicate that Sentinel Node biopsy guided by a gamma probe can identify a negative axilla with high accuracy, so that women with a negative SLN can be spared axillary dissection and all its risks. Since the technique is also easy to apply, researchers expect it to become widely adopted for most cases of breast cancer with clinically negative nodes. This should generate significant cost savings to health care system. The added cost of the lymphatic mapping and blue dye techniques should be easily offset by the reduction in intensity of care currently being delivered. As an experienced OR nurse, a woman and health care consumer, this new technology excites me.

I have great interest in Breast Cancer research. I have an extensive, close family history of Breast Cancer, including the loss of my mother, age 39, to this disease. I have lived with the fear and have had to make my choices as to treatment. The standard of Breast Cancer care has changed greatly over the last 20 years, and I'm looking forward with optimism and hope to the next ten years as research in this field continues to make significant progress. My hopes are for my daughter - that she and other women will have more informed choices for effective treatment in the future.

Definitions

1. **Colloid**- a suspension of particles in a carrier medium (liquid)

2. **Radiocolloid**- a colloid tagged with a radionuclide for the purpose of diagnostic imaging

3. **Lymphoscintigraphy**- nuclear medicine imaging of lymphatic drainage

4. **Gamma**-a form of radiation. Other forms include microwave, radio wave and light

5. **Lymphedema**- the accumulation of lymphatic fluid in the tissues, causing swelling

6. **Paresthesia**- lack of sensation, can be caused by nerve damage during axillary dissection

7. **Seroma**- a pocket of serum caused by lymphatic drainage into an excisional cavity - must be surgically aspirated

8. **KeV** - kilo electron volts, units of measurement of gamma ray energy

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Potential New Cancer Treatment Heralded by the Canadian Cancer Society

Toronto: Volunteers and staff at the Canadian Cancer Society expressed hope and excitement about two new anticancer agents that take a different approach to combatting cancer. In experiments with mice, the two new agents, angiostatin and endostatin block blood vessels, which provide fresh nutrients and oxygen to cancer cells, from forming in and around the tumor. These two agents are proteins normally produced in the body to control the growth of blood vessels.

Previous laboratory research has shown that this development of an ever-expanding network of blood vessels in tumours seems to be a crucial step in enabling a tumour to become a large, malignant growth, capable of spreading to other organs.

"We are all filled with hope and tremendous excitement about the possibilities of these two agents," says Ms. Dorothy Lamont, the CEO of the Canadian Cancer Society and its scientific partner, the National Cancer Institute of Canada. "Although we still have to wait for human clinical trials to begin as well as their results, it is this kind of innovative scientific thinking that we believe will ultimately turn the tide against cancer in the near future."

Professional Practice Issues

By Genelle M.C. Leifso, RN, BSN, CPN(C)

Abstract

The value in exploring nursing issues was publicly demonstrated in 1997 when Winnipeg perioperative nurses told of their struggle with the personal impact of professional practice issues in their workplace. Nursing issues are matters of dispute within and affecting the nursing pofession. Issues evolve because of value differences which emerge as part of one's socialization process or develop as a by-product of one's life experience. The author revisits a personally experienced nursing issue and explores it according to Bowman's plan.

Stress abounds for the nursing practitioner with possibilities for conflict existing in both the professional and personal realm. Some of these stressors may revolve around uncomfortable work environments, rigid policies, or unsupportive work relationships (Wiele, 1994). Bowman (1985) stated that such a conflict was an issue. Thus, a nursing issue is a matter of dispute within or affecting the nursing profession.

In 1997, Canadians read of and witnessed the distress of pediatric perioperative nurses in Winnipeg as they described disturbing surgical problems and deaths. Although they had voiced specific concerns; they remained unsupported in their workplace and the problems which they had identified continued.

Dealing with issues is an inevitable part of the professional nurse's practice. Issues evolve because of value differences. Values may be instilled as part of one's socialization process or develop as a by-product of one's life experience. Values, once internalized, become the guide for choosing between alternatives, both in the private and professional realm. In fact, for the integrated individual, one's professional values are a reflection and expansion of personal values, refined through the identification of personal motivators, the building of self-awareness, and the enhancement of self-esteem.

Conscientious objection is one such issue. Does the perioperative nurse have the right to exempt herself from particular procedures to which she is morally opposed?

The Issue

In twenty-seven years as a registered nurse, my primary focus has been perioperative nursing. In the past ten years, I have had to deal with a personal moral dilemma on two different occasions.

The first event occurred when I was being interviewed for a job in the OR of a large, tertiary, teaching hospital. During the interview I was candid about my anti-abortion philosophy with the Nurse Manager because I also value absolute honesty. The Nurse Manager asked me if I had any objections to scrubbing for the staff neuro or cardiac surgeons, specialists whose disagreeable conduct in the unit was widely known. She went on to explain that a number of the nursing staff refused to work with the surgeons in these specialties and that my desire to be relieved of participation in abortions was less of a problem for her than dealing with the other staffing issue. She faithfully organized staff assignments sensitive to my request. During my time in this unit, a number of the nurses spoke with me privately, expressing regret that they had not voiced the same reservations on their hiring. Once they had been active participants, they believed that it would be inappropriate to withdraw their services. They felt stuck, impotent, and frustrated.

Several years later I was being interviewed for a similar position in a smaller community hospital. The Nurse Manager in this facility was unwilling to give me a direct response and, instead, polled each of her current staff to see how they felt about having a non-participatory RN on staff. Their consensus was negative. I was advised to seek employment elsewhere.

Author

The author, was an employee of BC Children's Hospital and a staff nurse in the OR at the time this article was written. Currently she is involved in Case Management as a Nurse Advisor with the Workers' Compensation Board of British Columbia.

What Do The Experts Say?

Abortion raises complex moral questions for society in general, but more particularly for those women who seek the service and for those professionals requested to provide it.

Curtin, (1993) identifies the complex questions which this issue raises "about relationships among professional nurses' personal values, their professional ethics, the obligation to the institutions that employ them, and their statutory rights and obligations".

Little has been written concerning conscientious objection from the Canadian legal perspective, although the limited rights of the American RN in this forum have been documented(Wardle,1993). There, discrimination, coercion, and retaliation are possibilities for those professionals objecting to personal participation in practices ranging from blood transfusion, abortion, sterilization, and organ transplants to the withdrawal of nutrition and fluids. This leads to the destruction of personal integrity(Curtin,1993); a particularly distressing occurance for those who are subordinate (ie. students, new staff) and potentially more vulnerable to this sort of pressure in the workplace.

To date, most of the emphasis in this dilemma has centred on the rights of the patient and the duties of the nurse towards that patient. But, rights are not unlimited. From an ethical point of view, the right to self determination is only supreme if it does not impinge on another's right to autonomy. Still, Rumbold(1993) suggests that simply choosing to be a nurse puts some limits on that nurse's rights since nurses have a duty not only to enable their patients to exercise their universal right to health care; but also in ensuring that no harm to the patient results.

Nurses also have a duty to abide by their contractual agreement with their employer. Job descriptions are implied contracts. When one accepts a position, one agrees to perform it as it has been defined. Therefore, Smith(1991) contends that ethical arguments are unacceptable in defending one's refusal to perform a task that is a stated requirement of one's job because this noncompliance would then be an obvious dereliction of duty and the nurse would be subject to disciplinary action and/or dismissal. With this in mind, it would probably be prudent for the nurse not to seek employment in settings where their personal values or belief system are unmistakably at odds with those of the facility.

While Curtin(1993) reminds us that nurses should be expected to provide competent and courteous care to all patients; she asserts that nurses who oppose abortion should act responsibly to protect their own integrity. Thus, if those same nurses are in contact with abortion patients, those patients have every right to expect protection from physical and emotional harm, and to not be abandoned. Qualified professionals must provide their care.

Consequently,the nurse manager may be left with the problem of ensuring quality of patient care through the maintenance of competent nursing resources. Would lack of willingness to participate in the care of certain patients be contagious among staff members? Kuhn(1995) also asks whether it would be deemed discriminatory to assign one nurse to perform those tasks which another had refused to execute. If one nurse will not perform certain services to which the patient has a right; must another nurse perform them? And Curtin(1993) cites various psychiatric reviews in her caution that "even if one doesn't believe that the abortion procedure involves the destruction of a human person, repeated exposure to abortion procedures...can have a very negative effect on the health professionals involved".

While most would accept that people have a right to act in accordance with their personal beliefs and values; Virginia Henderson's Basic Needs affirmed that "one's ability to conform to one's concept of right and wrong is a basic human need", (Rumbold, 1993).

As such, it is a need which nurses share. Patient's needs are met through nursing interventions, while nurses meet their own needs through exercising their freedom and defending their own moral convictions. Thus, when the nurse seeks to absent herself from particular interventions, she is speaking only for herself (Benjamin and Curtis,1992). There is no intention to oppose other staff or to prevent them from performing those tasks. Rather, the nurse seeking

exemption in this manner is responding to the guidance of her conscience and acting with the courage of her convictions.

Bowman's Plan for Exploring Issues

The process which Bowman(1985) advocates for analyzing and resolving an issue is closely linked to the nursing process. It involves assessing the situation to determine whether an issue exists based on recognition, verification, and evaluation of the issue's scope, developing strategies related to issue resolution, followed by implementation and evaluation of those strategies.

Stimulated by a UBC nursing course, I decided to investigate whether questions of personal morality still impact on the practice of my colleagues. Does conscientious objection continue to be a matter of personal concern? I also wished clarification from my professional association on this issue.

Issues requiring recognition and resolution of conflicting personal ethics (internal and external) as they relate to other practitioners as well as to organizational goals have been around forever. While some might still argue that this particular topic is a personal issue, rather than a professional issue; professional publications continue to document the never-ending struggle for nurses who wish to exercise personal rights. The issue, in this instance, is not whether abortions should or should not be performed. Rather, if the profession declares abortion a matter of client choice; then, is the same autonomy granted to the client available for the professional?

While I found that a number of authors supported my view that this was a nursing issue; the fact that former colleagues spoke with me about distress in this area made me anxious to consult my current associates. Verification of this concern was important from Bowman's perspective.

What Do My Colleagues Say?

I prepared a questionnaire which asked for anonymous responses to 10 questions. Not all of them dealt with the issue of "choice" because I thought it might prove thought provoking to compare the responses to moral dilemmas around conscientious objection with those to issues involving unacceptable professional conduct (ie. harassment by surgeons). Of the 27 questionnaires distributed over several days to my colleagues in the OR at BC Children's Hospital; 23 were returned. This huge response might be indicative of some emotion around the issue, or it might simply suggest a desire to be of personal assistance. It is impossible to deduce.

While some respondents wrote in additional comments which also proved interesting; the questions and responses pertinent to this issue were as follows:

Does the perioperative RN have the right to refuse to participate in procedures to which she is morally opposed (ie.abortion)? **Yes 1 No 10**

Have you ever participated in a procedure to which you were morally opposed? **Yes 13 No 8**

Have you ever refused to participate in a procedure to which you were morally opposed? **Yes 4 No 19**

Would knowledge about procedures performed in a particular facility influence whether or not you would seek employment there? **Yes 21 No 1**

Would you seek to be exempted from procedures to which you were morally opposed? **Yes 19 No 4**

Have your views made you selective about where you would or would not seek employment (ie.pediatric hospital, Catholic hospital, long term care facility)? **Yes 8 No 14**

Would you support colleagues in your workplace who wished to exercise choice and exempt themselves from particular procedures? **Yes 16 No 7**

Although I had requested anonymous responses, the process of completing the questionnaire generated much discussion among staff as they met in the OR lounge on breaks. Most seemed to have had some personal experience with the issues and were anxious to share their concerns and to justify their responses. At times, it seemed that a debriefing session around ethical decision making would make a logical next step. While this was an unscientific, informal gathering of opinion, it was interesting to note that while the majority of my colleagues felt that perioperative nurses had the right to refuse to participate in procedures to which they were morally opposed; a larger majority had personally participated in such procedures. And, an even larger majority had never refused to participate in such procedures. Thus the issue presents itself. Theoretical belief and philosophical approval does not always lead to personal behaviour consistent with those beliefs.

In retrospect, it might have been even more enlightening to ask an additional question about "resentment". Just because colleagues will support each other does not infer that annoyance or irritation are not generated. After all, as was mentioned in the literature review, if one nurse will not perform certain tasks, another nurse must.

What Does My Professional Association Say?

The CNA Code of Ethics(1997) states that "if the care requested is contrary to the nurse's moral beliefs, appropriate care is provided until alternative care arrangements are in place to meet the client's needs". Communication with my professional association, the RNABC, reaffirmed the position that although nurses have the same rights as all other persons in society, at times those rights may be limited by their professional obligations relating to their assumed duty to provide care.

While there are a number of situations where it might be acceptable for nurses to withdraw from or refuse to provide care; when considering conscientious objection, the RNABC expects that the RN will make her beliefs known to the employer well before an individual client will require care. If a situation arises where a nurse expresses her conscientious objection, the employer has an obligation to make reasonable attempts to assign the nurse in a way that will avoid her moral or religious conflict. But, if the nurse cannot be otherwise accommodated, the nurse must provide the care in question and that nurse's objections to the care must not be evident to the client or in any way affect the quality of the care provided (RNABC,1992).

Conclusion

Nurses as a professional group are divided in their opinions with regard to many issues; but even controversial issues should be addressed. The questions remain valid and should be asked of the individual practitioner and the profession as a whole. "The professional must not sacrifice personal integrity and certainly must never be required by policies, laws, or social expectations to do so"(Curtin,1993). While appeals to conscience are based on the desire to preserve this personal integrity which is at risk when practitioners act contrary to their individual values and beliefs(Rumbold,1993); they do not apply to issues which are contrary to the ethics of the profession as set out in the CNA Code of Ethics(1997).

Given the division on this issue among my perioperative colleagues and the evidence presented by experts in a variety of publications, it is apparent that this ethical issue can only be decided by the individual, based on that professional's moral and ethical decision making skills. Numerous resources are available for the nurse seeking guidance in ethical decision making. Consulting reference lists on nursing ethics, moral or ethical reasoning, moral agency or moral distress should assist the professional seeking direction.

It is the opinion of this professional that resolution of this issue requires both moral reasoning and ethical behaviour. They cannot be separated. Behaviour is measured by observing actions; not what people say they will do, but what they actually do - as Leah Curtin writes, "You are the sum total of your value choices"(Hall,1996).

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Multiple Organ Retrieval and Exchange Program

By Susan Burnell-Jones

This article is about life and death and how one of the results of a tragic death can be a new life. I am speaking about organ donation and transplants.

There are those who are reluctant to talk about such things, who feel the topic is too gruesome... who remember the novel Coma, where bodies were stored awaiting orders for body parts. Or who have watched television and have seen a donor heart dropped and kicked across the floor in a medical drama series. Or watched a supposedly objective documentary contending that children are murdered for their organs. These are myths... and myths are gruesome.

The realities are not gruesome. The realities are joyful and life enhancing.

The realities are that through the generous understanding and kindness of strangers, more than 600 people in Ontario last year were able to live. Six hundred people, many of whom would have died without an organ transplant. Six hundred people, the majority of whom are now able to live full, happy lives, contributing to their community.

There are also more than 150 families who last year, understood that this precious gift could help others. One hundred and fifty families, who in the midst of their grief, were still able to think of others. There was nothing more they could do for their loved ones. ..but there was more they could do for others.

Public opinion polls indicate that up to 90 per cent of people say they would donate the organs of a loved one. But fewer than 50 per cent have actually signed a donor card.

There is a fear that if the donor card is signed, bad luck will follow. This is called superstitious avoidance and it is the same reason that many people do not make out their wills. The fact that there is more likelihood that you or someone in your family will need a transplant than there is of ever being a potential organ donor.

Right now, 100 out of every million people in Ontario need an organ transplant Only 20 out of every million are likely to become a potential organ donor.

There is also the fear that if a donor card is signed, the signer will not receive complete medical care when needed because organs are in demand. The fact is, every health professional would rather have a live patient than a potential donor, that is why they became doctors and nurses—to save lives. The medical team that treats a critically-ill patient is completely separate from the donor/transplant team.

Donation is only considered when all measures have failed, when all hope is gone and brain death is declared.

Fears about possible body mutilation have also been voiced. The reality is that the recovery or organs is a delicate and skilled procedure. The body is treated with respect and dignity and after organ retrieval had taken place, the body can be displayed in an open casket and no one will ever know that an organ donation has been carried out unless the family chooses to tell others.

Concerns about fairness in who gets the available organs have also been in the news with the high profile transplants of American celebrities such as Mickey Mantle and Larry Hagman. There has been documentation to prove that in both cases, the fact that they were next on the list had nothing to do with their being celebrities.

Author

Susan Burnell-Jones is the Regional Communications Coordinator, M.O.R.E. , Nepean, Ontario. This paper was presented at the 15th National Operating Room Nurses Association Conference, Ottawa, 1997.

How Organs are Allocated in Ontario

Once patients have been approved for a transplant in one of the five transplant regions across the province (Toronto, Hamilton, London, Ottawa and Kingston) their names and all medical details are entered into the M.O.R.E. Ontario computer system. When a donated organ becomes available, donor coordinators who work for the transplant centres, enter medical information into the central computer.

The main factors in choosing these patients are:

- illness of the patient: the sicker the patient, the greater the priority
- blood type
- organ size

From a pool of patients waiting for that organ, the computer then generates a list of patients that best match the donated organ. This is done for each organ consented to for donation. With all this data in the computer a list is generated based on the *best match* and not on social standing, wealth or influence. That information is not known to the M.O.R.E. computer and therefore is not part of the process. It has no bearing on the allocation of organs. Organs are allocated fairly across the province.

M.O.R.E. Ontario is a registered charity with funding from the Ministry of Health, rather than from the transplant centres.

There is no doubt that the recipients are in awe of the fact that they are alive because of this altruistic gift. There are heart transplants recipients who were unable to get out of the bed, but less than a week after the transplant, can walk around the block.

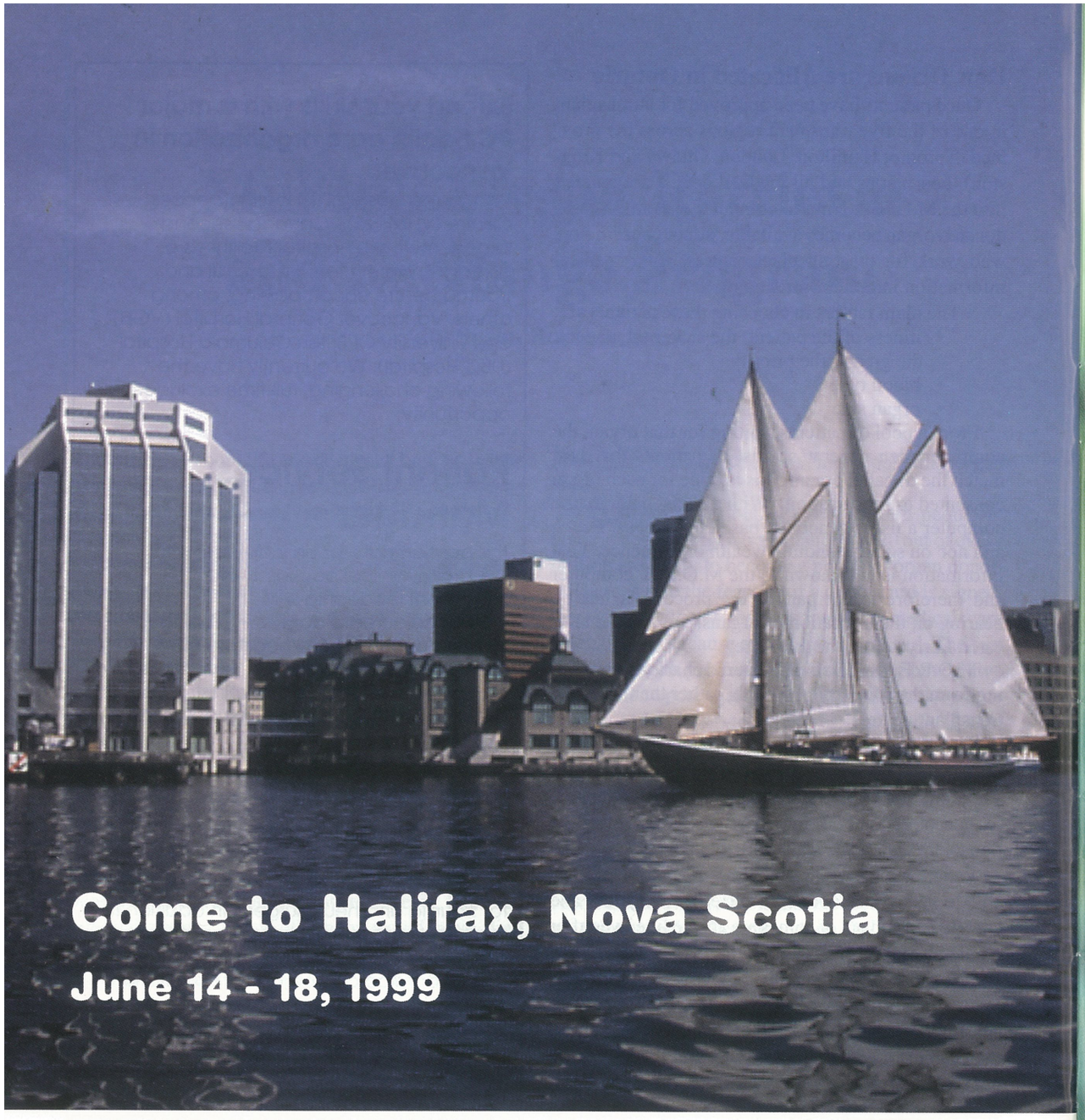
Patients with end-stage liver disease who are unable to taste their food, who suffer memory loss and who drift in and out of comas are able to live lives after a transplant.

For those on dialysis a kidney transplant offers them a better quality of life. They no longer have to carefully measure every drop of liquid that they drink, they can eat a better balanced diet and their lives are not dictated by the three times a week dialysis treatment necessary to keep them alive.

Patients with cystic fibrosis or other conditions that affect the lungs can breathe freely again after a lung transplant. They can continue to be a functioning member of their families and of their communities. It means life to them.

As one young mother said; "My daughter's life ended that day, but the lives of three other children began."

I ask you to think about organ donation to talk about it with your families. And if you decide to sign a donor card, ask your family to respect your wishes.



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Conference Theme

Cresting The Wave

Newsbriefs

Y2K anxieties - critical medical concerns

Ottawa: Less than 8 months ago, a report was tabled by a House of Commons Committee examining the Millennium Bug. This committee pinpointed Canada's health care facilities, utilities and defence sector as critical areas of concern. One of the largest insurance companies in the United States suffered a system failure because a program was written to add five years to the date of the last transaction. When 1995 arrived, the program mistook the year 2000 for 1900 and cancelled thousands of policies; it then deleted them from company files.

Y2K is not just a technological problem, it's already a costly one. The U.S. defence department spent almost $2 billion in 1996 trying to deal with it. World-wide, it is estimated there are 16 billion microchips.

There is a common fallacy that only older equipment is susceptible to the Y2K problem. This is simply not the case. It was recently discovered that a batch of Pentium microprocessors produced in Texas (state of the art equipment circa 1995) were not Y2K compliant. In many cases, due to shortages in the microchip industry, manufacturers will use different units of the same model. This creates a situation where one device is Y2K compliant, but an identical model unit is not because alternative chips used were not compliant.

A sample scenario: A number of vital pieces of non-compliant equipment (such as IV infusion pumps) fail at the same time, and staff are not able to correct the situation immediately, thereby causing over-medication, or non-medication of patients.

The bottom line is that it is important to ensure that all hardware and software is compliant, both individually and collectively. This is a technical issue best addressed by properly trained experts.

Health Canada's website provides lists indicating which devices are known by manufacturers to be compliant and non-compliant, (see http://www.hc-sc.gc.ca/hpbdgps/therapeut/htmleng/y2k_md.html).

1st OR Nurse to earn Bachelor of Technology Degree

Vancouver: The first operating room nurse to earn a Bachelor of Technology (Specialty Nursing) from the British Columbia Institute of Technology (BCIT) attended convocation ceremonies at the Institute recently.

Wendy Lindsay, a general duty nurse who practices in the operating room at the University of British Columbia Hospital, used her knowledge, skills and expertise to gain her degree. She has worked as a perioperative nurse for 22 years, began her studies as a part time student in 1994. With her previous education and experience, she was able to challenge a number of theory and clinical courses in the certificate portion of the degree. Having gained her operating room nursing certificate in an accelerated mode, Wendy then carried on to complete both the core and the liberal education courses in the degree. Since all these theory courses were completed via distance education, she was able to continue to work full time.

The Bachelor of Technology (Specialty Nursing) from BCIT is starting to attract nurses from provinces other than B.C. The opportunity to use existing knowledge, skills and expertise towards a degree that has a specialty focus is certainly seen as an exciting option. Additionally, the distance education format for the theory courses, allows O.R. nurses from across Canada to complete the major portion of their studies from their home base with flexible time frames. Ann Bartlett from Cambridge, Ontario is about to start her final two courses and has completed all but a two week clinical course at home or close to home.

Congratulations to Wendy, and to all those who are busy studying.

(Story & Photo submitted by **Susan Knoll.)**

(For information on BCIT's Perioperative Nursing Certificate and the Bachelor of Technology (Specialty Nursing) call 1-800-663-6542 local 7102).

First Nations Communities take Charge of Diabetes and Cardiovascular Risks

Toronto: According to results from a recent screening program revealed at the Annual Meeting of the Royal College of Physicians and Surgeons of Canada in September, the number of cases of diabetes and cardiovascular problems in Canadian First Nations communities is growing at an alarming rate.

The dramatic results reveal that the incidence of diabetes and cardiovascular problems of First Nations communities is alarmingly high:

- Twenty two percent of the adults had diabetes compared to 5 per cent of the general population.
- Prevalence of hypertension was 26 per cent in First Nations adults in this study.
- Cardiac risk factors such as sedentary life style, high blood pressure, obesity and smoking were higher than in the general population.
- Cholesterol was elevated in about half of the adult population.
- One of four diabetics had signs of early kidney disease.

Overheard in the OR ...

"I can please only one person per day.
Today is not your day.
Tomorrow isn't looking good either"!

New Migraine Drug Offers Rapid Relief

Toronto: Health Canada has approved a new generation migraine drug that promises rapid, effective and consistent relief from many types of migraine.

Zomig (zolmitriptan), made by Zeneca Pharma, available as 2.5mg tablet provides relief within an hour of administration "by acting peripherally and possibly in the brain stem, which is thought to be the "pain generator" of migraine," said Dr. Alan Rapoport, Neurologist and Director of the New England Centre for Headache in Stamford, Connecticut.

According to Dr. Jacques Meloche, Neurologist and Director of the Montreal Migraine Clinic, "Zomig has a bioavailability of 40% which is much higher than some medications and consistency of response may be linked to this attribute."

In a series of clinical trials of 3,000 migraine patients who had more than 34,000 migraine attacks which occurred within a one-year period, Zomig given orally, consistently demonstrated high efficacy in a wide variety of migraine sub-types. These included menstrually-associated migraine, which is traditionally very difficult to treat.

Telemedicine Canada Closed!

Winnipeg: In a letter to the OR Journal, **Mary Knight Kubasiewicz** tells us that in July ORNAC received notice that Telemedicine Canada, a non-profit organization which relied solely on funds raised from registration in their programs had closed. With the cutbacks, regionalization and restructuring in healthcare, Telemedicine lost its economic viability. This closure represents the loss of the only low-cost national opportunity for continuing education which had the ability to reach all parts of our wide-spread country.

Mrs. Kubasiewicz thanks everyone who has participated in the past successes of the Operating Room Nursing Series, including moderators, speakers, participants, and the Journal for advertising the series and the previous ORNAC coordinators for organizing the programs. We would like to express our appreciation to Natalie Reigler, RN, PhD, Telemedicine Nursing Education Coordinator for her efforts through the years in keeping the Operating Room Nursing Series on track.

We live your reality, every day.

Right now, reality is pretty tough – increased anxiety, decreased funding, and the stress that comes from trying to do more with less. With so many demands, meeting the needs of individual patients can be very difficult. That's why we're here with you to help.

We're here to offer you a lot more than just quick-fix solutions. We've changed the way we work to make it easier for you to provide quality care, especially in today's changing environment. We're leveraging more with our world-wide network. We've expanded our product line. And we're adding resources to make your job easier when you need to determine how to best take care of patients.

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