Reproductive Genetics and the Obstetrics and Gynaecology Clinician

To the Editor:

The Genetics Committee of the SOGC strives consistently to keep members up to date with the clinical genetics aspects of obstetrics and gynaecology. The task is getting harder, because the level of genetic understanding required to provide genetic counselling continues to rise, there is a rapid technology/industry drive for non-invasive prenatal screening and diagnosis, and the commercial fight for test validation and subsequent market share continues.

How will the clinician be able to get informed consent from the patient if the genetic knowledge required to inform is currently beyond the medical school and residency curriculum?

Two documents highlight what are considered "core competencies in genetics" for health professionals[1] and medical school curricula.[2] These will be summarized to highlight this concern and the enlarging gap in genetics knowledge on the part of clinicians.

The National Coalition for Health Professional Education in Genetics recommends that, at a minimum, "each health care professional should be able to:

a. examine one's competence of practice on a regular basis, identifying areas of strength and areas where professional development related to genetics and genomics would be beneficial.

b. understand that health-related genetic information can have important social and psychological implications for individuals and families.

c. know how and when to make a referral to a genetics professional."

The organization further includes learning points directed towards knowledge, skills, and attitudes.

The medical school curriculum in genetics recommended by the Association of Professors of Human and Medical Genetics in 2010 would require a significant increase in medical school teaching hours for genetics, and it is likely that these recommendations have not been initiated in most Canadian medical schools. This curriculum change has not been implemented at the University of Calgary in its three year medical school curriculum. The following broad categories are recommended:

a. Organization of the genome and regulation of gene expression as it relates to medical genetic diagnosis.

b. Genetic variation and implications for diversity of normal variation and disease.

c. Principles of inheritance patterns.

d. Clinical, ethical, and social implications for diagnosis, family health, prediction, and personalized health.

e. Importance of genetic testing including cytogenetics, molecular genetics, genome scanning, and biochemical genetics.

f. Unique features of the genetics for cancer and prenatal diagnosis.

g. Treatment of genetic conditions including family counselling.

The curriculum further includes learning points directed towards medical knowledge, patient care, interpersonal and communication skills, practice-based learning and improvement, professionalism, and system-based practice. From the broad categories above, the areas likely to be covered at present in Canadian medical schools are c, e, and f, but without the medical knowledge emphasis (in the student's mind) that is placed on medical, surgical, and psychiatric topics.

This letter is intended to raise concern regarding the rapidly expanding genetics knowledge presently required in health care diagnosis, management, and treatment, and the real ability of medical students, residents, clinical fellows, and attending obstetrician-gynaecologists to acquire this new genetic knowledge. There are not enough reproductive geneticists (maternal fetal medicine subspecialists or medical geneticists) available to cover the clinical and counselling needs of patients and thereby allow them to provide truly "informed" consent.

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A Review of Therapeutic Abortions and Related Areas of Concern in Canada

To the Editor:

Dr Sabourin and Dr Burnett present a cogent review[1] of the history and current status of induced (also called "therapeutic"[2]) abortion in Canada. I fully support their assessment of the many barriers women face in accessing abortion service in Canada and their call for better family planning education for the public and health professionals. Additionally, I thought some aspects of their review should be clarified or updated.

In their very appropriate discussion on contraception, Dr Sabourin and Dr Burnett discuss method effectiveness in terms of the "typical use" failure rates. Although this is not defined, they almost certainly refer to the "percentage of women experiencing an unintended pregnancy during the first year of typical use,"[3] a definition of typical failure rate which I will use in this letter. They also indicate the proportion of Canadian women using certain contraceptive methods as a percentage. Thus, a reader may mistakenly assume that the percentages refer to the percentages of unintended pregnancies in the first year of use when noted in the sentence "[m]ethods with lower typical failure rates, such a male and female sterilization and intrauterine devices (13% and 4%, respectively) were used less frequently."

Generally accepted typical-use failure rates are as follows:[3]

- intrauterine devices: 0.8% for copper-releasing devices and 0.2% for levonorgestrel-releasing devices in the first year;
- female sterilization: 0.5% in the first year; and
- male sterilization: 0.15% in the first year.

Further, JOGC readers may be interested to know that three emergency contraception pill (ECP) products are currently approved and available in Canada.[4] In addition to Plan B, mentioned by Dr Sabourin and Dr Burnett, consumers may also choose Next Choice (Cobalt Pharmaceuticals, Mississauga ON) or Norlevo (Laboratoire HRA Pharma, Paris, France), all containing the same dose of levonorgestrel for immediate use.

With respect to the discussion of the mechanism of action of the ECP, Dr Sabourin and Dr Burnett have clearly presented what was known at the time of their review in early 2011. However, more recent evidence supports a mechanism of ECP action that is solely a pre-ovulatory effect (i.e., it is no longer considered controversial to state that this method is not an abortifacient).[5–7]

Finally I offer additional references to strengthen the authors' discussion of the single case of maternal death due to *Clostridium sordellii* septic shock in a Canadian woman undergoing medical abortion.[8] With a total of eight North American deaths due to *C. sordellii* following medical abortion since 2001, the accepted fatality rate is 0.58 per 100 000 women undergoing medical abortion.[9–11] In 2006 the Planned Parenthood Federation of America revised their medical abortion protocol so that all misoprostol is delivered buccally rather than vaginally, and prophylactic antibiotics (doxycycline) are universally administered. It is unknown whether these changes have contributed to the absence of reported subsequent deaths among women who have received prophylactic antibiotics at the time of medical abortion. The clinical presentation of this infection can include abdominal pain, hypotension, and tachycardia, a high white cell count and hemoconcentration with accumulation of third space fluid. As this important and very rare infection can also occur in reproductive-age women regardless of pregnancy status,[12] and often without fever, a high index of suspicion for the infection in the presence of this symptom complex is in order.

I wish to thank Dr Sabourin and Dr Burnett again for their ambitious and timely review.

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