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Management of Twin Pregnancies (Part 11)

Report of Focus Group on Impact of Twin Pregnancies

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A multidisciplinary group was convened to address important issues surrounding the impact of twin pregnancies on individuals, families, health care providers, and society as a whole. Particular attention was placed on addressing the following aspects related to twin pregnancies:

1) Incidence
2) Perinatal Morbidity and Mortality
3) Social and Financial Impact
4) Role of Assisted Reproduction
5) Health Promotion Programs

After careful literature review, the group achieved consensus on a number of recommendations. There was unanimous agreement that the *Declaration of Rights and Statement of Needs of Twins and Higher Order Multiples* prepared by the International Society for Twin Studies Council of Multiple Birth Organizations should be endorsed and supported at all levels of government and providers of health care within Canada. The full document is published in *Twin Research* (1998).[1]

With regards to the specific needs of Canadian families with multiple pregnancies, it is known that the incidence of twin pregnancies continues to increase in Canada from 9.05 per 1,000 confinements in 1974 to 11.29 per 1,000 confinements in 1995.[2] In absolute numbers, this represents an increase from 3,037 sets of twins in 1974 to 4,245 in 1995, or a 30 percent increase overall in that 21 year period. Although 1995 is the latest year for which Statistics Canada information is available, it is likely that this trend will have continued to increase.

It was noted that there is a significant increase in perinatal morbidity and mortality in twin pregnancies compared to singletons, primarily due to the increased rate of preterm delivery. Between 1991 and 1995 in the United States, the preterm delivery rate in twins was 13.94 percent (<33 weeks) and 50.74 percent (<37 weeks) compared to 1.7 and 9.43 percent respectively in singleton pregnancies.[3] The contribution of multiple pregnancies to preterm birth rates in Canada has recently been confirmed, with a 25 percent increase in the proportion of preterm

births resulting from multiple gestations between the years 1981-1983 to 1992-1994.[4] It should be noted that approximately 98 and 97 percent of multiple pregnancies in 1981-1983 and 1992-1994 respectively were twin pregnancies.[4]

PERINATAL MORBIDITY AND MORTALITY

Much of the increased morbidity and mortality of twin pregnancies is directly related to prematurity, and includes respiratory distress syndrome, intraventricular haemorrhage, and necrotizing enterocolitis. In addition, there is an increased incidence of intrauterine growth restriction in one or both fetuses, congenital abnormalities, and complications related to twin to twin transfusion syndrome.[2]

Careful evaluation of the extent of the increase in perinatal morbidity and mortality with twin pregnancies is complicated by inconsistencies in perinatal data collection between institutions as well as between provinces within Canada. In order to attempt to address these problems in relation to preterm birth in particular, Health Canada's Bureau of Reproductive and Child Health has introduced a new health surveillance system to monitor changes in perinatal health entitled The Canadian Perinatal Surveillance System. It was recommended that, given the significant contribution these pregnancies make to the overall incidence of preterm labour, this group should include in their indicator framework variables specific to multilple gestations. Information requiring documentation which is likely to be important in improving our understanding of causation of the increase in perinatal morbidity and mortality related to twin pregnancies includes: 1) mode of conception and nature of assisted reproductive technology if used; 2) embryonic and fetal demise (selective or spontaneous); 3) familial twinning; 4) placental inspection.

RECOMMENDATION 1

There is an urgent need for the standard reporting of perinatal data within hospitals and provinces as well as nationally which reflects the special considerations of twin and higher order multiple pregnancies.

SOCIAL AND FINANCIAL IMPACT

In addition to traditional indicators of perinatal morbidity and mortality, twin pregnancies are associated with a number of financial, personal, and social costs for their families and twins themselves. Because of the increase in preterm birth, there is also an increase in the incidence of cerebral palsy overall in twins compared to singletons.[5] The financial costs related to the care of low birthweight children, a substantial number of which are twins, continue long after the costs of neonatal intensive care have been assumed.[6] It has been estimated that 50 percent of the increase in costs related to the care of children with disabilities is related to special education. Clearly the impact of twin pregnancies on families and society does not end with the perinatal period.

The financial costs related to neonatal intensive care are significant, and governments have, over the last 10 years, progressively decreased the funding provided for this important component of health care as they have with many others. This decrease has occurred at the same time that the number of twin pregnancies and their associated preterm birth rates have increased in Canada. Twin pregnancies and higher order multiples place an additional challenge on the provision of neonatal intensive care, since by nature the clinical volume load is greater than that which occurs with a singleton delivery. With an increasing prevalence of transport of mother/fetuses or preterm neonates to distant level III units due to the lack of availability of medical and/or nursing staff or equipment, even greater stresses have been placed on women and families with both singleton and multiple pregnancies with threatened or actual preterm labour. This is a trend that must be reversed.

It has been well documented that the financial, emotional, and social costs of twins are greater than for singletons; and yet this is not recognized by governments,[7] nor by society in general. The incidence of clinical depression is increased in mothers of twins[7] and issues around mother-infant and father-infant interactions require special consideration by health professionals. Surveys of families with triplets and other higher order multiples have revealed in general a lack of professional awareness of the special needs of these members of society.[8]

RECOMMENDATION 2

Federal and provincial community health providers should incorporate recognition of the special needs of families with twins and higher order multiples into existing and future related prevention and early intervention programmes for families and children at risk. All families with twins and higher order multiples should have access to appropriate services and supports (medical and essential non-medical) that address their special needs.

RECOMMENDATION 3

Health professionals should provide additional information and support services for families expecting twins antenatally in order to allow preparation for additional emotional, financial, and practical stresses related to their twins. Such information and support should include preventative health and parenting education as well as psychosocial services to help them cope with the high health and psychosocial risks related to multiple births.

RECOMMENDATION 4

Governments and health care delivery policy makers should

be made aware of the impact that current restrictions in funding for neonatal intensive care make on the ability to provide optimal care for families with twins and higher order multiples when the care cannot be provided regionally.

RECOMMENDATION 5

The SOGC in conjunction with other health professional bodies (eg. Canadian Paediatric Society, Canadian College of Family Physicians) should be encouraged to hold further workshops to heighten the awareness of care providers regarding the special needs of families with twins and higher order multiples.

ROLE OF ASSISTED REPRODUCTIVE TECHNOLOGY (ART)

It is well established that the incidence of twins and higher order multiple pregnancies is greater following assisted reproduction than following spontaneous ovulation and conception. Recent studies have shown that up to 35 percent of twin pregnancies in some centres occur as a result of assisted reproductive technologies (ARTs).[9] Overall population data for the relative contributions to multiple pregnancy rates of ovulation induction medications and other ART, however, is difficult to obtain for the reasons discussed previously regarding perinatal data collection in Canada. Nevertheless, the Royal Commission on New Reproductive Technologies (1993) noted the increased rate of multiple pregnancies with ovulation induction drugs as well as the increased rate of multiple births in Canada that we have outlined. The Royal Commission concluded that "the explanation for all these rises is almost certainly the use of fertility drugs and techniques such as *in vitro* fertilization (IVF)."[10] This led them to make the following recommendation: "No more than three zygotes be transferred during IVF procedures, and then only after counselling of the couple to ensure that they understand the possibility and implications of having triplets. Patients should give their consent in writing if more than one zygote is to be transferred and should be assured that no more than three will be transferred."[10] Sadly, this recommendation has not been followed by all infertility treatment units in Canada, and therefore it may be necessary to institute regulations governing the number of embryos to be transferred. It is of note that in some countries, the maximum number of embryos which can be transferred is limited to three by legislation. In some units in the U.K. and Canada, only two embryos are transferred unless there are exceptional circumstances.

Of perhaps even greater importance is the contribution of ovulation induction agents to multiple pregnancy rates when IVF is not used. At present, there are no limitations on the ability of medical practitioners to prescribe these medications and there are no mechanisms to ensure appropriate prescribing other than through extensive professional and consumer education. There is an urgent need for this to take place. In a survey of families with twins and higher order multiples in Southwestern Ontario in 1994,[8] none of the mothers who had conceived through ART had been provided with information or counselling before treatment began about preconceptual health, potential health risks to women carrying multiples and their babies, the chances of disabilities in multiples, or the demands of raising two, three or more babies.

RECOMMENDATION 6

The SOGC should endorse the moral obligation of physicians to inform women and their families who seek infertility treatments of the implications of multiple births in advance.

RECOMMENDATION 7

There is an urgent need for national regulations regarding the maximum number of embryos that may be transferred in ART Programmes in Canada as well as the prescribing practices of clinics and physicians related to ovulation induction agents.

RECOMMENDATION 8

The SOGC should establish standardized methods of reporting pregnancy rates in all ART programmes and their implementation should be regulated. A national registry for ART programs should be established in Canada.

RECOMMENDATION 9

The SOGC should initiate an open discussion and debate about issues related to multi-fetal pregnancy reduction procedures.

HEALTH PROMOTION PROGRAMS

Canada is well positioned to make a substantial contribution to the care of families with twins and higher order multiples largely because of the existence of a highly organized and effective parent support group known as POMBA (Parents of Multiple Birth Association). This organization has a distinguished legacy of providing information and support for families both during pregnancy and after birth. The opportunity exists for health professionals to work with this group to establish health promotion programmes for families, communities and care providers. Other countries have established organizations dedicated to this process, such as the U.K.'s Multiple Births Foundation, which work closely with their parallel parent support groups. A similar organization in Canada working with POMBA and national organizations such as the SOGC could

be an effective instrument for profiling the special needs of families with twins and higher order multiples through education programmes for professionals, governments, and communities.

RECOMMENDATION 10

A national inventory of services and supports available for women expecting twins and higher order multiples and their families should be conducted in order to determine the potential benefit of a national provider survey.

RECOMMENDATION 11

There is an urgent need for the development of health promotion and awareness programmes for families, communities, and health professionals regarding twins and higher order multiples.

RECOMMENDATION 12

The SOGC endorses the *Declaration of Rights and Statement of Needs of Twins and Higher Order Multiples.*

SUMMARY

The care for families with twins and higher order multiples is complex and there are a number of medical, financial, social, and moral factors which influence it. This workshop attempted to identify the key issues determining the impact of twins on families and society. A number of recommendations have been put forth for consideration which were endorsed unanimously by the Working Group. Many of these recommendations are included in the *Declaration of Rights and Statement of Needs of Twins and Higher Order Multiples* [1] but have been identified separately here because of their particular relevance to the current Canadian scene. The authors would like to thank all of the participants in the Working Group for their important contribution to the preparation of this document.

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