The decline of laparoscopic sterilisation

Horgan, Richard P.; Higgins, John R.; Burke, Gerard J.

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Abstract:
Female sterilisation is an extensively used method of contraception all over the world but there appears to be a decline in the performance of this procedure in Ireland. There also appears to be an increased uptake of reversible contraceptives in Ireland. We set out to establish the extent of the decline in laparoscopic sterilisation and to explore possible explanations. Data for female sterilisation from Ireland was obtained from the Hospital In-Patient Enquiry Scheme (HIPE) section of the Economic and Social Research Institute for the years 1999 to 2004. The first year for which returns of this data was obligatory was 1999 and from 2005 the coding scheme was modified and now uses the International Classification of Medical Interventions. Recent sales figures for long acting reversible contraceptives, specifically the levonorgestrel-loaded intrauterine system (Mirena) and the etonogestrel implant (Implanon) were obtained from their suppliers, Schering (Ireland) and Organon (Ireland) respectively.

The HIPE Scheme is a computer based health information system designed to collect medical and administrative data regarding discharges and deaths from acute hospitals. Each HIPE discharge record represents one episode of care and may represent more than one hospital admission with the same or different diagnoses. The records therefore facilitate analyses of hospital activity rather than incidence of disease. In the current study, all laparoscopic and open sterilisation procedures, which have individual codes depending on the method of tubal occlusion or destruction, were divided into two simple groups, laparoscopic or open (which include procedures carried out at time of Caesarean section).

Results
HIPE data for female sterilisation from Ireland were obtained for the years 1999 to 2004 (Table 1). These show a marked reduction in the number of laparoscopic sterilisation procedures performed. Laparoscopic tubal ligations fell by 33% (1999-2004), a 65% decline. The LNG-100 (Mirena) received its first license in Ireland for contraception in October 1998. It was licensed as a treatment for idiopathic menorrhagia in October 1999. During the same period (1999-2004) the annual sales of the device increased from 4,840 to 17,077 units (a 350% rise). The etonogestrel implant, Implanon, is a long-acting reversible contraceptive. It is a sub-dermal implant and is effective for three years. Implanon was launched in Ireland in 2001 and from 2002 to the end of 2005 over 30,000 units were distributed in Ireland (Table 1).

Discussion
We are satisfied that the HIPE data provide a reasonable estimate of female sterilisation activity since the records have the capacity to represent 95% of national coverage by obstetricians or patients but rather to the method involved.

The swiftness of the change in medical practice probably suggests that this has been physician led, rather than patient demand led, from the outset. It may reflect that doctors, particularly gynaecologists, were not very enthusiastic about laparoscopic sterilisation and were eager to adopt potentially safer and reversible alternatives. No remarkable decline in nonlaparoscopic sterilisation (which are usually performed laparoscopically, as a day-case, procedure, most commonly with appendectomy) had been reported.

Female sterilisation is a surgical procedure and is therefore unusual in that the indication for surgery is generally patient request for social reasons and not a treatment prescribed by a doctor for medical reasons. Also, it is up to the doctor to ensure that the patient has all the information required to make an informed decision. This is important, as female sterilisation is a frequent cause of medical litigation’. Major morbidity caused by laparoscopic sterilisation is a rare event but some women experience serious complications such as deep vein thrombosis, pulmonary embolism and blood vessels that require laparotomy or lead to death. The risk of laparotomy as a result of a severe, compound rupture of the 1.9/1,000 procedures (as stated in the package leaflet) and 14 practice surveys’ recording laparotomy rates of 1.43/1,000 cases. The risk of death with a laparoscopy is one in 12,000. Some women are at increased risk from conditions such as previous abdominal surgery or obesity. Previous abdominal surgery is particularly associated with inflammatory disease and repair surgery.

The Decline of Laparoscopic Sterilisation

Data for female sterilisation from Ireland was obtained from the Hospital In-Patient Enquiry Scheme (HIPE) section of the Economic and Social Research Institute for the years 1999 to 2004. The first year for which returns of this data was obligatory was 1999 and from 2005 the coding scheme was modified and now uses the 10% of Irish women are either overweight (BMI = 25.0-29.9) or obese (BMI ≥ 30) relative risk of complications and need for laparotomy. Many women in Ireland now have had at least one Caesarean section and 50% of Irish women are either overweight (BMI = 25.0-29.9) or obese (BMI ≥ 30) and the prevalence of pelvic inflammatory disease is also increasing. Support the new longer acting contraceptive methods are as effective as tubal occlusion and yet preserve reversibility and have the huge advantage of being office procedures, requiring relatively little training, and probably with a smaller risk of procedure related injury. The cumulative pregnancy rate for the LNG-IUS is 1.1/100 after five years of typical use.

Introduction
Female sterilisation, which is also called tubal ligation or tubal occlusion, is the most widely used contraceptive method in the world and is also the most reliable method of contraception. It is estimated that more than 100 million women in the developing world alone will seek sterilisation in the next 20 years. In 2001, in Great Britain, 15% of women aged 16-49 years had been sterilized. A study of the General Practice Research Database data suggests that in 1999 an estimated 47,268 tubal occlusions were performed in England and Wales. This represents 2.1% of all sterilisations which are usually performed laparoscopically, as a day-case, procedure, most commonly with appendectomy. The annual sales of the device increased from 4,840 to 17,077 units (a 350% rise). The etonogestrel implant, Implanon, is a long-acting reversible contraceptive. It is a sub-dermal implant and is effective for three years. Implanon was launched in Ireland in 2001 and from 2002 to the end of 2005 over 30,000 units were distributed in Ireland (Table 1).

Conclusion
The HIPE data provide a reasonable estimate of female sterilisation activity since the records have the capacity to represent 95% of national coverage by obstetricians or patients but rather to the method involved.

The swiftness of the change in medical practice probably suggests that this has been physician led, rather than patient demand led, from the outset. It may reflect that doctors, particularly gynaecologists, were not very enthusiastic about laparoscopic sterilisation and were eager to adopt potentially safer and reversible alternatives. No remarkable decline in nonlaparoscopic sterilisation (which are usually performed laparoscopically, as a day-case, procedure, most commonly with appendectomy) had been reported.
In our own units, laparoscopic sterilisation has almost disappeared completely. Some consultants stopped offering the procedure once the LNG-IUS became available as an alternative. There was little resistance from patients or from referring physicians and it is apparent that the change in policy has been broadly accepted. Thus, it would seem that a procedure that was introduced in Ireland to considerable furore is becoming rapidly obsolete. Many will have no regrets about its passing.

References

Comments: R Horgan<br>Email: <a href=mailto:richard.horgan@ucc.ie>richard.horgan@ucc.ie</a></br>