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The Decline of Laparoscopic Sterilisation

Abstract:

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Female sterilisation is an extensively used method of contraception all over the world and there appears to be a decline in the performance of this procedure in Ireland. There also appears to be an increased uptake of other contraceptive methods. We set out to establish the extent of the decline in the performance of 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 (ESRI) which contains figures for long acting reversible contraceptives specifically the levono-estragland-loaded intrauterine system (LNG-IUS) (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 one or more 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). The data shows a marked reduction in the number of laparoscopic sterilisation procedures performed. Laparoscopic tubal ligations fell from 2,566 to 910 during the study period, a 65% decrease. The LNG-IUS (Mirena) and the etonogestrel implant (Implanon) were developed in recent years as a major advance in reversible contraception. It is a sub-dermal implant and is effective for three years. Implanon was launched in Ireland 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 35,000 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 do not suffer from non-reporting. The totals are thought to represent 95% of national coverage by the Department of Health and Children. We have shown a dramatic decline in laparoscopic sterilisation in Ireland in recent years. This decline has coincided with the introduction of progestogen-loaded reversible contraceptives, particularly the LNG-IUS, which has seen a huge increase in sales over the same period.

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 non-laparoscopic sterilisation (which are almost all performed at time of Caesarean section) was observed. This suggests that there is no aversion to sterilisation per se among obstetricians or patients but rather to the method involved.

Issues likely to have been responsible for the change in medical practice include reversibility, safety and the availability of reliable alternatives. Reversibility is an important feature of contraception as regret and requests for reversal or in-vitro fertilisation are not uncommon after sterilisation. In a US Collaborative Review of female sterilisation 6,7,8 we have shown a marked reduction in the number of laparoscopic sterilisation procedures performed. Laparoscopic tubal ligations fell from 2,566 to 910 during the study period, a 65% decrease. The LNG-IUS (Mirena) and the etonogestrel implant (Implanon) were developed in recent years as a major advance in reversible contraception. It is a sub-dermal implant and is effective for three years. Implanon was launched in Ireland 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 35,000 units were distributed in Ireland (Table 1).

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 patient to ensure that the doctor 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 serious complications can occur and these include: bowel or bladder injuries, blood vessels that require laparotomy or lead to death. The risk of laparotomy as a result of a severe,-complication was 1.9/1,000 procedures (Table 2) (based on 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 associated with pelvic inflammatory disease and an increased risk of complications and need for laparotomy. Women in many countries today have had at least one Caesarean section. Women aged 30 or younger at the time of sterilisation have the highest rates of pelvic inflammatory disease and this increases the relative risk of complications and need for laparotomy.

Some of the newer long-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 with a very small risk of serious postoperative injury. The cumulative pregnancy rate for the LNG-IUS is 1.1/100 after five years of typical use.
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


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