

admission to hospital with tuberculosis. Both had identifiable risk factors for HIV, which were known at the time of their consultations for contraception. The clinic has revised its approach to HIV testing and now offers this service to all clients with an identified risk factor, regardless of the primary reason for attendance. One of the major risk factors in clients attending for contraception is unprotected sexual intercourse in a country with high HIV prevalence.

This approach seems feasible not only in one-stop sexual health clinics but also in dedicated FPCs, and in general practice where large numbers of clients requesting non-barrier methods of contraception are seen. Clients with a history of unprotected sexual intercourse from countries with high HIV prevalence should be identified, HIV testing discussed, with onward referral where necessary. Condoms should be provided.

#### Statements on funding and competing interests

*Funding.* None identified.

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## SHORT COMMUNICATIONS

### Experience of reversal of sterilisation at Glasgow Royal Infirmary

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#### Abstract

**Objective.** To review experience at the Glasgow Royal Infirmary with regard to women who underwent reversal of sterilisation, to obtain a profile of these women and to evaluate the procedure itself in terms of safety and restoration of fertility.

**Design.** A retrospective study based on case records from the Glasgow Royal Infirmary and from the Glasgow Royal Maternity Hospital, both of which share the same catchment area.

**Participants.** Eighty-five women underwent reversal of sterilisation between 1 January 1994 and 31 December 1998 at the Glasgow Royal Infirmary. Follow-up at the Glasgow Royal Maternity identified 43/85 women.

**Methods.** Patients were identified from relevant theatre log books and from records at the maternity hospital until December 2000 and their case notes reviewed.

**Results.** Having a new partner was responsible for 90% of requests. Median age at request for reversal was 34 years and most had been sterilised before the age of 30 years. There were few postoperative complications. Pregnancy occurred in at least 43% of women.

**Conclusion.** Reversal of sterilisation is a safe and effective method of restoring fertility. The actual incidence of pregnancy after reversal is likely to be higher than the 43.5% recorded due to difficulties in achieving 100% follow-up.

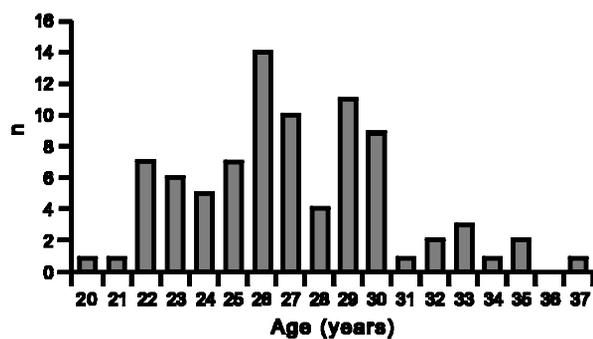
#### Introduction

Tubal occlusion remains the most cost-effective and convenient choice for many parous women seeking contraception, in spite of the increasing availability of reversible methods. Although the reversibility is not an idea that is encouraged at the time of sterilisation, up to 14%<sup>1</sup> of these women regret the decision and request reversal of the procedure.

This is a review of our experience at the Glasgow Royal Infirmary, Glasgow, UK with regard to reversal of sterilisation during a 5-year period from 1994 to 1998. During this period, an average of 280 sterilisations and 17 reversals per year had been carried out in this hospital. The objectives were to obtain a profile of women requesting reversal of sterilisation, and to evaluate the procedure itself in terms of safety and restoration of fertility, although the numbers were relatively small and the conclusions tentative in this regard.

#### Methods

A list of all patients who underwent reversal of sterilisation between 1994 and 1998 was obtained from theatre logbooks at the Glasgow Royal Infirmary. The case records of all these women were used to procure relevant data on the details of the request, work-up and procedure. A follow-up after reversal from the date of surgery until 2000 using case records from the Glasgow Royal Maternity Hospital, which

**Figure 1** Age at sterilisation for women who requested reversal

is the maternity unit for the same catchment area, was carried out. The population served by the hospital is relatively stable, with high levels of social deprivation. There was no follow-up available for women who did not attend this unit and the data are limited in this respect, as are the conclusions regarding the pregnancy outcome.

### Results

Eighty-five women had reversal of sterilisation during the period 1994–1998 at the Glasgow Royal Infirmary. Ninety percent of these women requested reversal because they now had a new partner. Nine percent had reason for regret or desired further fertility with the same partner. One woman unfortunately lost her only child.

The median age of the women who had reversals was 34 years (range 26–42 years). The median age at which the women were sterilised was 27 years (range 20–37 years), with fewer women who were sterilised aged over 30 years (Figure 1).

The majority of women requesting reversals were para 2 but some were of higher parity. As regards the safety of the procedure, 92% had no postoperative complications but 7% had wound infection or haematoma and 1% had a urinary tract infection.

With regard to the restoration of fertility, follow-up data from the Glasgow Royal Maternity Hospital was only available for 43/85 women, with pregnancies documented in 37 cases. Hence taking 37 as the minimum number of women who conceived after reversal, at least 43.5% had a pregnancy documented after reversal and 42.4% of the pregnancies were definitely intrauterine. One of the pregnancies had an ectopic implantation, emphasising this possibility in the women who underwent reversals. A total of 26/37 pregnancies proceeded to live births.

Most women who conceived after reversal did so in the first 12–18 months but there was a definite but small cumulative pregnancy rate contributing to 15/37 pregnancies.

At least 53% of the women who underwent a reversal in 1994 had conceived by the year 2000 compared to 44% of those operated upon in 1998.

Most of the pregnancies were in the 30–40 years age group with no pregnancies recorded in the few women operated on after the age of 40 years.

The majority of women had been sterilised using either Filshie clips (56) or Fallope rings (24), with only a few being sterilised with Hulka clips. There was no statistically significant difference in the pregnancy rate after reversal whatever the method of occlusion used originally (21/26 pregnancies with Filshie clips and five with Fallope rings) (Chi-squared test,  $p = 0.231$ ).

Those women who achieved a pregnancy were

compared with those who were unsuccessful with regard to demonstration of tubal patency intra-operatively using the methylene blue dye test. There was no demonstrable patency in 13/85 reversals, two of which resulted in a successful pregnancy which was not statistically significant ( $p = 0.081$ ).

The two groups were again analysed using the Chi-squared test with regard to experience of the surgeon. The experience of the surgeon, classified as consultant or non-consultant, did not have any significant bearing on achievement of pregnancy.

### Discussion

Ninety percent of women requesting reversals did so on account of having a different partner, and this is simply a reflection of social trends. These trends should always be considered when counselling a woman prior to sterilisation with specific mention of social statistics. Discussion of social trends with regard to stability of relationships may result in a different decision regarding the woman's contraceptive requirements.

All consultants in the unit during the study period avoided reversals in women over 40 years of age in keeping with general guidelines followed for assisted conception techniques.<sup>2</sup>

A total of 75/85 women who had reversals had their sterilisation before 30 years of age. This would suggest a strong case for offering reversible methods to women aged under 30 years. Parity in itself does not appear to influence interest in restoring fertility.

There were no major complications recorded in any of the 85 women. Also, the experience of the surgeon, whether classified as consultant or non-consultant, did not have a significant bearing on the achievement of pregnancy.<sup>3,4</sup> No patients were re-admitted with postoperative complications. These factors suggest that the procedure is a safe and technically straightforward option in restoring fertility after tubal ligation.

The methylene blue dye test may provide reassuring evidence of patency achieved intra-operatively but appears to have little or no bearing on the achievement of pregnancy afterwards. Hence while providing reassurance in a proportion of women and to the surgeon, it may contribute to feelings of anxiety and despair in other women. This raises the question of the actual value of performing this test.

The actual incidence of pregnancy after reversal in this population is likely to be higher than the 43.5% recorded due to the difficulties in achieving 100% follow-up. Whether the occurrence of ectopic implantation could be higher must be borne in mind. With time there is a small but significant rise in cumulative pregnancy rate, particularly in the younger woman.

### Statements on funding and competing interests

*Funding.* None identified.

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