

The sequelae of female sterilization in one general practice

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SUMMARY. All sterilized women in one practice were identified and asked to complete a questionnaire designed to elicit undesirable sequelae. A randomly selected control group were asked similar questions about experiences since their last pregnancy.

The incidence of operative sequelae in the two groups was found to be strikingly similar. A small minority of the sterilized women had some regrets but the majority had had no undesirable after-effects.

Introduction

SOME gynaecologists believe there may be undesirable after-effects of female sterilization, particularly menstrual problems causing subsequent operations. Possible mechanisms by which sterilization might induce menstrual disturbances have been discussed by Lu and Chun (1967), Darwish and Saafan (1975), Neil *et al.* (1975), and others.

The literature contains many relevant articles (Adams, 1964; Black and Sclare, 1968; Whitehouse, 1969; Williams *et al.*, 1951). All are retrospective and many are concerned with sterilization coincident with Caesarean section. The proportion of cases contacted was usually well under 100 per cent and in one study as low as 34 per cent (Lu and Chun, 1967).

I have been able to find only one investigation with controls (Neil *et al.*, 1975) and none from general practice.

For long-term evaluation of operations a general practitioner has advantages over a hospital doctor. Consultants' follow-ups are usually short. Only patients who develop symptoms are referred back to them.

A general practitioner remains in contact with most patients. He is the first to be consulted about undesirable after-effects, even those not needing con-

sultant referral. He also sees those without relevant complaints if only through family illness. In the case of this particular operation he may notice an improvement in the general health of a woman freed from the strain of repeated pregnancy, and a secondary benefit to the children's well-being.

It is generally agreed that operations on the uterus are followed by an increased incidence of menorrhagia and hysterectomy (Weed, 1959; Montague, 1959; Pletsch and Sandberg, 1963).

It is therefore not surprising that those who have reported on Caesarean sterilization have found a high incidence of subsequent menstrual problems (Pletsch and Sandberg, 1963; Powell, 1962).

There is no such agreement as to whether tubal ligation or diathermy alone produces similar after-effects. Sacks and La Croix (1962) and Darwish and Saafan (1975) consider it does not.

Until comparatively recently the majority of sterilizations were performed for high multiparity and repeated Caesarean section, both conditions likely to be followed by menstrual troubles.

Muldoon (1972) found that "most (sterilized) patients requiring further major surgery were either highly multiparous or had surgical wounds in the uterus, either at Caesarean section or hysterotomy". In fact, of his 70 subsequent hysterectomies, 50 were gravida five or more, 15 had had repeated Caesarean sections, and three were sterilized at the time of hysterectomy.

Lu and Chun (1967) reported a follow-up of 3,092 cases of whom 34 per cent were contacted; of these 1,055, only four had required subsequent hysterectomy for menorrhagia, whereas 98 per cent were satisfied with the sterilization operation, despite 51 per cent reporting menstrual changes.

Neil and colleagues (1975), who used the wives of vasectomized men as controls, found menstrual problems occurring in 39 per cent after diathermy and 22 per cent after ligations, but in only 13 per cent of controls.

Chamberlain and Foulkes (1975) suggested that most complaints of increased bleeding and/or pain occurred in those who had been on oral contraception before sterilization. They also noticed a reduction in bleeding

in women who had previously used an intra-uterine contraceptive device.

Most observers have found a high incidence of satisfaction with the operation, even in those who have had problems afterwards.

Subsequent regret has been found to be associated with such factors as poor general health, unhappy marriage, divorce, poor sex life, and menstrual disturbances (Norris, 1964). Norris and others have suggested that greater consideration of such factors before sterilization would sometimes lead to alternative procedures and eliminate many of the bad results.

Aim

With these points in mind I decided to find out the results of sterilization in my practice. I am single-handed with an all-NHS list of approximately 2,800, including all social classes. The annual turnover rate is very small.

Methods

The record cards of all women on my list were scrutinized. A total of 61 sterilized women was found.

A control series was prepared by taking the next woman after each case of sterilization in my alphabetical list who fulfilled the following criteria:

1. Age within two years of the sterilized woman.
2. Married, or living as married.
3. Parous.

Questionnaires were prepared which were designed to elicit personal characteristics and obstetric and gynaecological history.

Those sterilized were asked specifically about their gynaecological histories and changes in libido since the operation; also about satisfaction with the operation.

The controls were asked about their gynaecological histories and libido changes since their last pregnancy, this being a comparable point in time, as most of the sterilizations were performed in the puerperium or soon afterwards.

Table 1 shows that the two groups were similar except for the higher parity of the sterilized. It would not have been possible to obtain a large enough control series of similar parity. If this difference has produced a bias in the results it will have been towards a lower incidence of

Table 1. Comparison of sterilized women with controls.

| | Controls | Sterilized women |
|----------------------------------|----------|------------------|
| Average age | 38.6 | 39.5 |
| Range of age | 26-58 | 25-56 |
| Parity (average) | 2.7 | 5 |
| History of pre-pregnancy D and C | 3 | 6 |

Table 2. Age of women at sterilization.

| | |
|--------------|-------|
| Average age | 31.4 |
| Range of age | 22-46 |
| Under 30 | 18 |
| 30 to 40 | 37 |
| Over 40 | 6 |

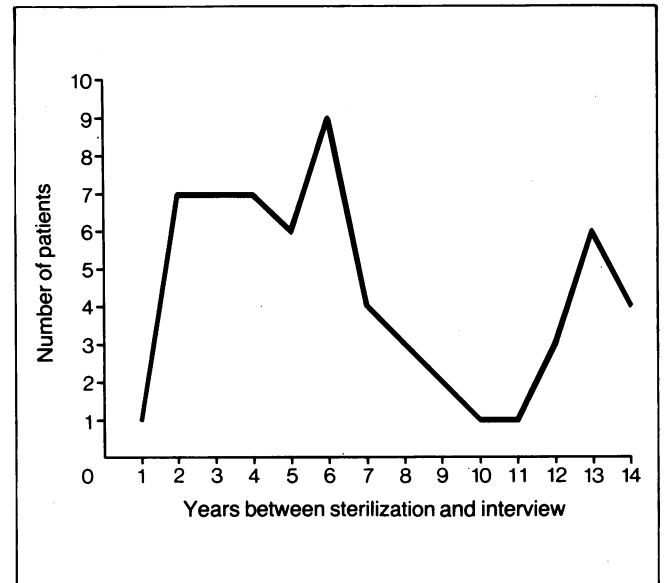


Figure 1. Interval between sterilization and interview.

menstrual problems in the controls, because of the recognized association between multiparity and subsequent menstrual problems.

An analysis of ages at sterilization is shown in Table 2. It will be noted that 70.5 per cent were over 30.

All the sterilized women and controls were interviewed alone by me.

Figure 1 records the variations in time span between sterilization and interview. The range was from one to 14 years, the majority (40) from two to seven years.

Results

The findings are given in Tables 3 to 9.

Menorrhagia

Twenty-six sterilized women said their periods had become heavier, but only nine had consulted their general practitioner and only five had required dilation and curettage (D and C). It may be that some women did not consult their doctor because they believed sterilization might be followed by heavier periods.

In the control series 13 reported heavier periods since their last pregnancy; six had consulted their general practitioner, and six had undergone D and C.

Table 3. Comparison of experience of women since sterilization with those of controls since last pregnancy.

| | Controls | Sterilized women |
|---|----------|------------------|
| Increased menstrual loss | 13 | 26 |
| General practitioner consultation about menstrual loss increase | 6 | 9 |
| D and C | 6 | 5 |
| Hysterectomy | 4 | 3 |
| Salpingectomy | — | 1 |
| Laparotomy | 1 | 1 |

Table 4. Previous contraceptive methods of patients reporting increased loss.

| | Controls | Sterilized women |
|--|----------|------------------|
| Total | 13 | 26 |
| Previous oral contraception | 5 | 15 |
| Previous intra-uterine contraceptive device* | 2 | 2 |
| Other or none | 8 | 10 |

*Of the four women who had used intra-uterine contraceptive devices, three (two controls and one sterilized woman) had also taken oral contraception.

Contraceptive practice before sterilization, and before and after the control's last pregnancy, may well have affected the numbers reporting increased loss (Table 4).

Of the 26 sterilized women making such a report, 15 had previously been on oral contraception. Probably some of them had experienced only reversion to their normal loss. Certainly 17 had never been sufficiently troubled to consult their general practitioner, which suggests, but does not prove, that their loss was not very heavy.

At the time of the interview none of the 13 controls reporting increased loss was taking oral contraception, but 19 of the remaining 48 were doing so (Table 5). This may well have reduced the complaint rate of this group.

Intra-uterine contraceptive device usage would be expected to have opposite effects for both groups. The numbers involved were much smaller. Only two sterilized women had previously used an intra-uterine contraceptive device. Seven controls used one, two of whom reported increased loss.

Hysterectomy

Three sterilized women and four controls had undergone hysterectomy and the reasons are shown in Table 6.

The two sterilized women for whom the indication was menorrhagia had both suffered from abnormally heavy loss for a large part of their adult lives. Furthermore, one had had her sterilization performed at the same time as her third Caesarean section.

Table 5. Contraceptive methods used by controls at the time of interview.

| | |
|------------------------------------|----|
| Oral contraception | 19 |
| Intra-uterine contraceptive device | 7 |
| Husband's vasectomy | 4 |
| Hysterectomy | 3 |
| Other or none | 28 |

Table 6. Indications for hysterectomy.

| | Controls | Sterilized women |
|--|----------|------------------|
| Carcinoma-in-situ | 2 | — |
| Dyspareunia (due to coital pressure on cervix) | — | 1 |
| Menorrhagia (existing before pregnancy) | — | 2 |
| Menorrhagia (starting after pregnancy) | 1 | — |
| Prolapse | 1 | — |

One control underwent hysterectomy for intractable menorrhagia.

Other operations

Other operations are shown in Table 3.

One control required laparotomy to remove a migratory intra-uterine contraceptive device.

One sterilized woman had salpingectomy for chronic salpingitis, which first caused symptoms after tubal ligation.

One other woman had severe recurrent pains in the right iliac fossa following sterilization. No cause could be found despite full investigation, including laparotomy. There was no obvious psychopathology, and eventually the pains went.

Patients' satisfaction

All the women were asked if they had any regrets about being sterilized (Table 7). Forty-five had no regrets and many expanded their answers in such terms as "the best thing that ever happened to me", a phrase which was repeated many times. Of the 16 who had some regrets, two were considering re-marriage, one said that the operation "changed her", one said she felt "barren". The remaining 12 occasionally wanted another baby.

In an attempt to assess the importance of this wish, all controls were asked if they sometimes wanted another baby (Table 8); 17 out of 61 said 'yes', even though almost all were practising contraception to avoid another pregnancy.

This suggests that occasional desire for pregnancy should not be regarded as an after-effect of sterilization but as an expression of normal maternal instincts.

However, the first four women form a definite dissatisfied minority.

Table 7. Satisfaction with sterilization.

| | |
|----------------------------|----|
| No regrets | 45 |
| Some regrets | 16 |
| <i>Reasons for regrets</i> | |
| Occasional pregnancy wish | 12 |
| Considering remarriage | 2 |
| Barren feeling | 1 |
| Changed by the operation | 1 |

Libido changes

The sterilized women were asked if they had noticed any change in sexual desire since the operation, and the controls since their last pregnancy (Table 9). The larger number of women reporting increased libido is probably due to removal of fear of pregnancy.

There is a remarkable similarity in the numbers reporting diminished libido—14 against 11. Possibly this simply indicates increasing age.

Discussion

There have been few undesirable sequelae to sterilization in my practice. Twice as many sterilized women as controls noticed increased menstrual loss. The consultation rate was 50 per cent higher in the sterilized group. Contraceptive practice and the higher multiparity of the cases may have contributed to these differences.

The rates for subsequent D and C and hysterectomy in the two groups are strikingly similar.

With hindsight it would probably have been preferable for the two sterilized women who had had life-long menstrual problems, and who subsequently required hysterectomy, to have had the latter operation as the primary procedure.

A closer look at the stability of the marriage before recommending sterilization might have reduced the dissatisfied minority.

Conclusion

There can be no doubt about the great benefits following sterilization to the majority of my patients and their families.

A similar controlled investigation involving other practices and greater numbers might enable firmer conclusions to be drawn.

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Table 8. Patient satisfaction with the size of family.

| | Controls | Sterilized women |
|-----------------------------|----------|------------------|
| Satisfied | 44 | 45 |
| Sometimes want another baby | 17 | 16 |

Table 9. Libido changes in women since sterilization and controls since last pregnancy.

| | Controls | Sterilized women |
|-----------|----------|------------------|
| No change | 39 | 31 |
| Improved | 8 | 19 |
| Worsened | 14 | 11 |

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Acknowledgements

I am grateful for the assistance in the early planning stage of the Research Committee of the North-West Faculty, Royal College of General Practitioners and of Dr Clifford Kay. I also wish to thank Mrs Diane Valentine for her careful typing.