Consenting for pelvic nerve injury in colorectal surgery: need to address age and gender bias

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ABSTRACT

INTRODUCTION Pelvic nerve injury is a recognised complication following pelvic dissection in colorectal surgery. It can lead to urinary and sexual dysfunction in men and women, which varies from 5–40% depending on the surgery and the underlying pathology. Sexual dysfunction can manifest as erectile dysfunction in men and as dyspareunia and failure to achieve sexual arousal/orgasm in women. The aim of this study was to evaluate consent for these complications prior to surgery.

PATIENTS AND METHODS We carried out a retrospective audit on patients who had undergone elective colorectal surgery involving pelvic dissection over a 2-year period (June 2006 to June 2008) at University Hospital of North Staffordshire. We reviewed the consent forms and medical records of these patients, specifically looking for documentation of pelvic nerve injury, sexual dysfunction or erectile dysfunction prior to surgery. Only patients who had documented pelvic dissection in their operative notes were included in the audit, and those who were deemed unable to consent were excluded.

RESULTS Medical records of 118 patients were reviewed. Of this cohort, 31% were women ($n = 37$). Malignancy was the indication for surgery in 79% of women and 88% of men. Consent for the procedure was obtained by a consultant in 73% ($n = 86$) of patients and by a middle-grade surgeon in the remaining 27% ($n = 32$). Only two women were consented for pelvic nerve injury whilst this number was 41 for men (5% vs 51%). Patients younger than 50 years were more consistently informed of the risks (50%) compared to the over 50-year-olds (34%). Only eight patients (males 6, females 2) were consented for urinary dysfunction.

CONCLUSIONS The risk of pelvic nerve injury is not frequently stated, which is more common in women and the elderly. Overall, only 36% of patients were consented for pelvic nerve injury, while only 5% of women were consented. Is this professional discretion, or evidence that surgeons are not being assiduous enough when obtaining consent, which may leave them vulnerable to medicolegal claims? Introduction of procedure-specific consent forms would be a method to address this issue.

KEYWORDS

Pelvic nerve injury – Sexual dysfunction – Colorectal surgery – Gender bias – Surgical consent

Accepted 9 December 2010; online publication 10 April 2010

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Colorectal malignancy is the third most common cancer in UK, with over 36,000 cases diagnosed each year. Of these, nearly 30% are rectal in origin.¹ The incidence of ulcerative colitis is approximately 10–20 per 100,000 per year with a reported prevalence of 100–200 per 100,000, while the incidence of Crohn's disease is around 5–10 per 100,000 per year with a prevalence of 50–100 per 100,000.² Rectal involvement is very common in ulcerative colitis, and less so in Crohn's disease. Pelvic surgery either for cancer clearance or for benign surgery (such as proctectomy and ileo-anal pouch) convey similar risk for pelvic nerve injury.^{3,4}

Pelvic nerve injury can lead to sexual and urinary dysfunction in men and women, which varies from 5–40%

depending up on the surgery and the underlying pathology.⁴ Sexual dysfunction can manifest as erectile dysfunction in men and as dyspareunia and failure to achieve sexual arousal/orgasm in women.^{5–7} With the risks being so high, it is imperative that this forms a part of the discussion process while obtaining consent for this procedure. The Association of Coloproctologists of Great Britain and Ireland (ACPGBI) guidelines list the complications to be mentioned to the patient, and documented during the consent process for colorectal surgery.⁸

The aim of this study was to assess how many patients were consented for pelvic nerve injury or its complications, especially sexual dysfunction prior to pelvic colorectal surgery.

Patients and Methods

The University Hospital of North Staffordshire is a tertiary referral centre that performs 300 colorectal cancer resections a year, in addition to complex inflammatory bowel disease procedures. A retrospective audit was carried out on patients who had undergone elective pelvic colorectal surgery over a 2-year period (June 2006 to June 2008). The patients were identified using theatre operative codes. Out of 192 patients, only 152 notes (79%) were able to be accessed. Only patients with documented pelvic dissection in the operative note were included for the audit, and patients deemed unable to consent (Consent form 4) were excluded.

Applying these criteria, 118 patients were included in the audit. The consent forms and clinic letters were reviewed, specifically looking for documentation of pelvic nerve injury, sexual dysfunction/erectile dysfunction and urinary dysfunction. One of the limitations of a retrospective study is that documentation often does not reflect the consent process in total, and we acknowledge this.

Results

Of the 118 patients, 31% ($n = 37$) were women and 69% ($n = 81$) were men. Malignancy was the indication for surgery in 87% ($n = 103$) of patients. Consent for the procedure was obtained by a consultant in 73% ($n = 86$) of patients, by a registrar in 22% ($n = 26$), by a staff grade in 3% ($n = 4$) and by a senior house officer in 2% ($n = 2$). The issue regarding consent was a consistent phenomenon across the consultant and trainee grades and a reflection of a unit's practice. Anterior resection (63%) was the major procedure in this cohort. The operative procedures in different age groups are summarised in Figure 1.

The findings of our audit are summarised in Table 1. It is evident that patients younger than 50 years were more consistently informed of the risks (50%), which decreased to 35% in the 51–70 year age group and to 32% for those over 71 years. In the female cohort, only 5% ($n = 2$) were con-

Figure 1 Operative procedures in different age groups.

sented for pelvic nerve injury while in the men, 51% ($n = 41$) were consented. Only eight patients (males 6, females 2) were consented for urinary dysfunction. Overall, only 36% of patients were consented for this, and an additional 4% had these risks documented only in the pre-operative clinic letter.

Discussion

The pelvic nerves consist of sympathetic and the parasympathetic components, which together play a part in urinary and sexual function. The risk of pelvic nerve injury during surgery depends on the surgical technique and the underlying pathology, with pre-operative radiotherapy contributing to increased risk as dissection planes are unclear. The sympathetic component may be damaged during ligation of the inferior mesenteric artery (IMA) on the aorta or while dis-

Table 1 Summary of the audit findings

Age (median), n	Gender (M:F)	Pelvic nerve injury/erectile dysfunction/sexual dysfunction		Consent M:F
		Documented on consent form (%)	Documented in clinic letter (%)	
< 50 (41), 18	10:8	9 (50)	2 (11)	10:1
51–70 (63), 66	44:22	23 (35)	2 (3)	24:1
> 71 (76), 34	27:7	11 (32)	1 (3)	12:0
Total, $n = 118$	81:37	43 (36)	5 (4)	41:2

Table 2 Sexual and urinary dysfunction following pelvic nerve injury

	Men	Women
Sexual dysfunction	Decrease in sexual drive Ejaculatory (decrease, failure, retrograde) Potency (decrease, failure)	Decrease in sexual drive Decrease in vaginal lubrication Dyspareunia Decrease/failure to achieve sexual arousal and/or orgasm
Urinary dysfunction	Voiding (poor, neurogenic)	Voiding (poor, neurogenic) Nocturia Stress incontinence

secting at the pelvic brim. The possible locations of parasympathetic nerve damage are during perineal dissection or during lateral pelvic wall dissection. In men, the risk of injury is higher during anterior rectal dissection at the base of prostate.^{4,14} The various sexual and urinary dysfunctions in both genders following pelvic nerve injury are summarised in Table 2.

Rectal dissection is commonly performed for malignancy, and for benign conditions like diverticular disease and inflammatory bowel disease. The risk of pelvic nerve injury depends upon the operative procedure, which in the case of any pelvic dissection should always be highlighted in conjunction with current guidelines.⁸ Medicolegal claims due to consenting errors have increased, with huge financial implications^{10,11} to the NHS and the surgeon.

Good Surgical Practice states that patients have the right to information about their condition and the available treatments, including potential complications, to make a balanced decision.¹² Valid informed consent represents the culmination of good patient–clinician communication and is underpinned by the patient’s trust in the medical personnel. Some patients may not want to be informed of the risks and complications of treatment and may prefer to leave the decision entirely to their surgeon, in which case clinicians are advised to document these situations.¹⁵

Our audit results show variation in consenting practice among different age groups. Patients younger than 50 years old were more consistently informed of the risks of pelvic nerve injury compared to the over 50-year-old cohort. Fazio *et al.*⁵ showed that the risk of sexual dysfunction following operations on the rectum increased with the age of the patient, and was minimal below the age of 50 years. Santangelo *et al.*⁶ found that advanced patient age and very low resection were the two main factors effecting sexual dysfunction after major rectal operation. This highlights the fact that sexual dysfunction is more common in the middle and elderly age groups, and this is partly due to contributory multifactorial risks.¹⁵

There is a tendency for the surgeon not to document these risks in this population of patients. In our study, only 32% were consented in the over 71 year age group. Whether it is appropriate to discuss sexual dysfunction with a 80-year-old patient is a professional judgment, and this may be one of the reasons explaining the low consent rate in the elderly age group. However, the legal obligation often over-rides the professional judgment in many scenarios.

Similarly, gender bias in consenting was prominent in our study. Of the 37 women who underwent colorectal surgery, only 5% ($n = 2$) were consented for pelvic nerve injury compared to 51% in the male cohort. There is abundant evidence in the literature for male sexual dysfunction following pelvic surgery; this is reflected in our study, where men were more consistently informed of the risks, although this was not satisfactory. Compared to the evidence in men, there are very few studies looking at implications of pelvic nerve injury in women. Recent literature and research has been aimed at evaluating sexual function in women following rectal surgery.

Plattell *et al.*⁷ showed that women felt less attractive and complained of dyspareunia and faecal soiling during intercourse following pelvic rectal surgery. Henderen *et al.*¹⁵ reported sexual problems in a study of 81 women following rectal surgery. In this study, women reported decrease in libido (41%), lubrication (56%), orgasm (35%) and dyspareunia (46%) following surgery. Böhm *et al.*¹⁶ showed that following total mesorectal excision for cancer, women showed impairment of their anorectal and sexual function. This highlights the fact that surgeons need to be aware of these complications, and consent women at least as much as men. What is not clear is why consent was not obtained. Benign surgery for complex diverticular disease can be the most challenging surgery, yet inconsistency is more of a general issue and not necessarily linked to complex cases.

The consenting process in a clinic may be clouded by a patient’s emotional response to cancer, along with the

psychological distress that may lead to poor retention of knowledge with regards to the risk factors of surgery. In our study, pre-operative clinical letter documentation of the discussion was noted in 4% of cases, but this may be invalid in a court of law if not documented on a consent form. There have been suggestions of using pre-assessment clinics for consenting as patients would be better mentally prepared to discuss the risks involved compared to an out-patient clinic. Further studies should be aimed at looking into the effects of the surrounding environments (clinic/pre-assessment clinic/ward) on the mental state of patients, and on the consenting process.

Conclusions

It is evident from our study that not all patients are being informed of the risk of pelvic nerve injury, and age and gender bias exists while consenting. An adverse outcome in the absence of documented evidence exposes the surgeon to claims of clinical negligence. With increasing evidence in the literature of postoperative sexual dysfunction in women following colorectal surgery, surgeons should be aware of, and consent for, the complications of pelvic nerve injury, irrespective of age and gender. Introduction of 'procedure-specific' consent forms can be beneficial to both the surgeons and the patients.

Acknowledgements

These results have been presented, in part, at the Association of Surgeons in Training (ASIT) Meeting and at the Association of Surgeons of Great Britain and Ireland Conference, 2009.

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