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ORIGINAL RESEARCH

The impact of pelvic floor multidisciplinary team on patient management: the experience of a tertiary unit

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Purpose: Pelvic floor dysfunction is a common and heterogenous condition with numerous clinical manifestations, making the optimal management challenging. The traditional single-specialty approach may fail to address its complex nature. Currently, there are no published data on the impact of joint pelvic floor multidisciplinary team (MDT) meetings on patient management.

Patients and methods: This study represents a retrospective analysis of prospectively collected data on female patients discussed at a joint pelvic floor MDT over a 12-month period in a tertiary referral center.

Results: One hundred fifty-two cases were included with a median age of 55 years (range 18–83) and a BMI of 32 kg/m^2 (range 17–58). Lower urinary tract dysfunction was the predominant symptom in 75% (114/152). The pelvic organ prolapse symptom of a vaginal bulge was present in 11% (17/152). All cases of vaginal prolapse were accompanied by either urinary incontinence, 59% (10/17), or obstructive defecation, 41% (7/17). Fecal incontinence was recorded in 10% (15/152). Mesh-related complications were reported in 3% (4/152). The MDT recommended a change in the initial management plan in 20% (31/152) of cases, of whom 80% (25/31) were patients with complex urinary incontinence. The MDT agreed a change in the primary care team in 16% (25/152) of cases.

Conclusion: There is an increasing regulatory requirement for patients with pelvic floor dysfunction to be discussed in an MDT setting. Findings demonstrate that joint pelvic floor MDT meetings are feasible and contribute to a change in the management of complex patients.

Keywords: MDT, multidisciplinary team, pelvic floor dysfunction, prolapse, incontinence

Introduction

Pelvic floor dysfunction (PFD) typically presents with disruption of normal function and includes a wide spectrum of different conditions such as urge and stress urinary incontinence (SUI), fecal incontinence, pelvic organ prolapse, abnormality in lower urinary tract, and defecatory dysfunction.[1,2] PFD can affect women at any stage of their life, but remains more common with age progression affecting 40% of women at 65–70 years and 50% of those >80 years.[3] PFD is a heterogenous condition with a complex pathophysiology and numerous clinical manifestations, making the optimal management of PFD a significant challenge.[4] It has also been estimated that ~24% of adult women have symptoms of at least one PFD.[3] Currently, nearly 20% of women undergo surgery for either urinary incontinence or prolapse in their lifetime, with about 30% requiring further surgery for symptom recurrence.[5,6] It is thought that the service demand for the management of PFD will rise by 50% due to an aging population and

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rising levels of obesity.[7,8] Further factors such as obesity and some comorbidities are also having an impact on the incidence of PFD.[3,9] Overweight and obese women are nearly twice more likely to report symptoms of PFD than women with normal body mass index.[3,10]

The management of these patients can be challenging and often requires input from various health professionals. The traditional compartmentalized single-specialty approach to PFD meant that patients with symptoms and pathology affecting the female reproductive organs, the lower urinary and/or the gastrointestinal tracts were seen only by a single specialist, whose expertise did not necessarily span all three domains. This has been associated with inferior outcomes, including incomplete resolution of symptoms and high failure rates after surgery.[6,11] As a result, the National Institute for Health and Clinical Excellence (NICE) recommended multidisciplinary team (MDT) management of patients with PFD to standardize treatment and improve patient outcomes.[12]

Currently, there is no clear evidence in the literature of the impact of joint pelvic floor MDT meetings on patient's management. The aim of this study was to evaluate their role in the management of women with PFD in the setting of an MDT.

Materials and methods

This is a retrospective analysis of prospectively collected data of all women referred to and discussed at Joint Pelvic Floor MDT between January 2015 and January 2016 in a tertiary referral center. This project was registered with the Cambridge University Hospital Clinical Effectiveness Unit. Data were collected by using the hospital electronic records system EPIC (Epic Systems Corporation, Madison, WI, USA).

Patient-specific details including age, BMI, and presenting symptoms were recorded. Information collected also included attendance of the individual team members from different disciplines, the time from initial clinic review to decision for MDT referral and further time to MDT discussion. The initially formulated management plan was compared to the final MDT recommendation to identify if there was a change in the management plan including type of surgery, surgeon, or management team.

The Joint Pelvic Floor MDT consisted of subspecialist urogynecologists, urologists (subspecialists in functional and female urology), colorectal surgeons with an interest in functional bowel disorders, and nurse specialists. This is in keeping NICE recommendations.[12] Advice was also available from care of the elderly physicians, radiologists, and physiotherapists. The meetings were scheduled twice a month for 60–180 minutes. The attendance of at least one consultant urogynecologist and one consultant urologist was required for the meeting to be considered quorate. The consultant colorectal surgeon did not attend if there were no cases affecting the gastrointestinal tract, although the colorectal nurse specialist represented the team at the meeting in their absence.

An electronically submitted proforma was developed to capture the essential patient information (Figure 1). Cases were presented by the team who generated the referral from their department and the electronic patient record on EPIC was reviewed in detail including clinical correspondence, quality-of-life questionnaires, and results of investigations (eg, bladder diaries, urodynamic traces, and imaging). Minutes were kept and MDT recommendations were documented by one of two consultant urologists using the proforma, which was visible to all MDT members on a projected screen. This was automatically saved onto the electronic patient record. A letter was also sent to the general practitioner[13] and to the patient detailing the outcome of joint MDT meeting and plan for further management.

Results

One hundred fifty-two women were referred to the Joint Pelvic Floor MDT between January 2015 and January 2016 (see Table 1). All 152 cases were discussed (100%) and details are summarized in Bamboat et al.[14] The median age of patients discussed was 55 years (range 18–83) with a median BMI of 32 kg/m^2 (range 17–58). During the 12-month study period, there were 24 meetings. The median number of patients discussed was 5 (range 3–20). All sessions were attended by at least one consultant urologist and one consultant urogynecologist. Table 2 presents information on meetings' attendance, referring specialty, and timelines from initial presentation to decision for referral and from referral to discussion. Both consultant urologists attended 54% of meetings and both consultant urogynecologists were present in 58%. Consultant colorectal surgeons were present in 42% of cases, with their specialist nurse attending 58% of meetings. Sixty percent of cases for MDT review were referred by urogynecology, 32% by urology, and 8% by colorectal surgery. Median time from first clinic visit to decision for MDT referral was 42 days, ranging from 1 to 385 days. The median time from referral to MDT discussion and outcome was 20 days (range 1–75).

Table 3 details the initial presenting complaint and MDT outcomes. In 75% (114/152) of cases, the predominant

Figure 1 Joint pelvic floor MDT proforma.
Abbreviation: MDT, multidisciplinary team.

Table 1 Background characteristics

Demographic	Median	Range
Age (years)	55	18–83
Body mass index (kg/m^2)	32	17–58
Investigations prior to MDT	Number	%[a]
UDS	56/152	37
VUDS	42/152	28
Ambulatory UDS	5/152	3
EUA ±endoscopy	21/152	14
Imaging (US; CT; MRI; renogram)	20/152	13
PNE	9/152	6

Note: [a]Percent adds to more than 100 as some patients had two or more investigations.
Abbreviations: CT, computer tomography; EUA, examination under anesthesia; MDT, multidisciplinary team; MRI, magnetic resonance imaging; PNE, percutaneous nerve evaluation; UDS, urodynamics; US, ultrasound; VUDS, video urodynamics.

Table 2 Details of MDT meetings including attendance, referring specialty, and timelines

Meetings attendees	Number	%
Two urologists	13/24	54
Two urogynecologists	14/24	58
Colorectal surgeon	10/24	42
Colorectal specialist nurse	14/24	58
Urogynecology specialist nurse	9/24	38
Urology specialist nurse	2/24	8
Referring specialty	**Number**	**%**
Urogynecology	91/152	60
Urology	49/152	32
Colorectal surgery	12/152	8
Timelines (days)	**Median**	**Range**
Presentation to MDT referral	42	1–385
Referral to MDT outcome	20	1–75

Abbreviation: MDT, multidisciplinary team.

presenting symptoms were those of lower urinary tract dysfunction – 35% (40/114) with SUI, 32% (36/114) with mixed urinary incontinence (MUI), and 22% (25/114) with urge urinary incontinence (UUI). The pelvic organ prolapse symptom of a vaginal bulge was present in 11% (17/152). All cases of vaginal prolapse were accompanied by bothersome symptoms of either urinary incontinence, 59% (10/17), or obstructive defecation, 41% (7/17). Fecal incontinence was present in 9% (14/152). Other symptoms of vaginal stenosis, vaginal pain, and urethral discharge were reported in 2% (3/152). Mesh-related complications were present in 3% (4/152).

Table 3 Predominant symptoms, change in management and management team

Predominant symptom	No. of cases 152 (%)	Change in MX 31/152 (20%)	Change in MX team 25/152 (16%)
LUTS	114 (75%)	25 (16%)	16 (11%)
MUI	36 (33%)	10	8
SUI	40 (35%)	6	7
UUI	25 (22%)	8	0
Voiding dysfunction	4 (3%)	0	0
Recurrent UTI	4 (3%)	1	1
BPS	4 (3%)	0	0
POP	17 (11%)	2 (1.3 %)	9 (6%)
POP + UI	10 (59%)	2	2
POP + obstructive defecation	7 (41%)	0	7
Other	7 (5%)	3 (2%)	0
Vaginal stenosis Urethral discharge Pain	3 (2%)	2	
Mesh related	4 (3%)	1	
FI	14 (9%)	1 (0.7%)	0

Abbreviations: BPS, bladder pain syndrome; FI, fecal incontinence; LUTS, lower urinary tract dysfunction; MX, management; MUI, mixed urinary incontinence; POP, pelvic organ prolapse; SUI, stress urinary incontinence; UI, urinary incontinence; UTI, urinary tract infection; UUI, urge urinary incontinence.

The MDT recommended a change in the initial management plan in 20% (31/152) of cases. Eight percent (25/31) of these changes were in patients with complex urinary incontinence cases (eg, failed primary treatment, those requiring secondary surgery or coexisting symptoms involving multiple pelvic compartments): ten of these had predominant symptoms of MUI; six presented with SUI and eight cases with UUI. There were two cases of coexisting pelvic organ prolapse and urinary incontinence where the MDT recommendation deviated from the primary management plan. Other cases (3/31) where management was altered included vaginal stenosis, urethral discharge, and pain following previous retropubic tape procedure. The MDT agreed a change in management team in 16% (25/152) of cases. These included colorectal management in six of the primary urogynecological and one of urological cases. Sixteen cases were referred from urogynecology to urology for the management of recurrent UI and recurrent urinary tract infections. Urology referred to urogynecology two cases for the management of concurrent pelvic organ prolapse and urinary incontinence. In 3% (4/152) of cases, changes were recommended in both management plan and management team. Three of those cases were for the management of MUI and one for the management of coexisting obstructive defecation syndrome and urinary incontinence.

Discussion

This is the first study to review the impact of Joint Pelvic Floor MDT discussions on decision-making and patient management. The rationale for involving specialists from different fields in the management of PFD is the close anatomical and functional relationship of the lower urinary tract, lower genital tract, and anorectum, resulting in symptoms affecting multiple compartments.[15,16]

The concept of MDT was initially introduced to standardize cancer care in the United Kingdom, following the publication of the Calman–Hine report in 1995 which demonstrated that the multidisciplinary approach improves outcomes.[17] This philosophy has been adopted by both regulatory and professional societies across the breadth of health care with the aim of improving patient outcomes and promoting cross-speciality collaboration and team working.[18–21]

In the setting of PFD, NICE recommended MDT discussion prior to any invasive therapy for the management of overactive bladder or stress incontinence.[12] They suggested a PFD MDT should include a urogynecologist, a urologist with special interest in female urology, a specialist nurse, a women's health physiotherapist, a colorectal surgeon, and a specialist nurse with interest in bowel dysfunction management and a care of the elderly physician.[12] While not all centers in the United Kingdom have the infrastructure or personnel for an extended pelvic floor MDT, a survey of members of the Pelvic Floor Society found that 84% of tertiary and 75% of regional units held some form of regular MDT meetings.[22]

Our center largely follows this NICE recommendation with core team members from urology, urogynecology, and colorectal surgery as well as specialist nursing and physiotherapy input. Given the median age of patients in our service is 55 years, it was felt that routine attendance of a care of the elderly physician would not be cost-effective or an efficient use of their time, however, we do have a dedicated referral pathway for their input or attendance should be required. As reported in the literature, increasingly, patients require complex imaging; so, in the future involvement of a radiologist with special interest in pelvic floor imaging may also need to be considered as a core member of the joint pelvic floor service.[23]

Age of the patients in our study ranged from 18 to 83 (median of 55) years and is consistent with previous reports that PFD affects women across all ages, albeit more common in the menopause.[1,3,24]

In our study, MDT discussion led to a change in management plan in 20% of patients referred to joint pelvic

floor MDT. This is in line with work in other complex urogynecological conditions: Rao et al reported alteration in the management plan in 25% of complex uro-oncology cases following MDT discussion. They also reported 33.3% of patients moved to primary treatment specialty following discussion,[25] compared with 16% in our study. This cross-specialty referral resulting from MDT discussion is important for ensuring patients are seen expeditiously by the most appropriate team. Although we have identified a change in management and assume its beneficial role, we appreciate that we cannot correlate this to clinical patients' outcomes.

However, a multidisciplinary approach in the management of such patients translates into a more holistic evaluation and management and facilitates joint operating and better collaboration between specialties. There is also evidence to suggest that MDT management of patients encourages research in terms of setting up multidisciplinary trials.[26]

In line with the recommendations from the recent Independent Medicines and Medical Devices Safety Review on the use of surgical mesh for SUI, PFMDT provides a forum for discussion of management of complex cases but also encourages regular audit of operations, outcomes, and complications.[27,28] Although in this series there were only four cases (3%) of mesh-related complications, we expect that these numbers will increase within tertiary setting with centralization of mesh referrals and the establishment of mesh centers.[29]

Despite these advantages, MDT meetings do carry a significant cost, are time-consuming taking specialists away from direct patient care and may lead to delays in patient care.[23] Refinement of criteria for referral to joint MDT may address some of these. Based on our work, while 20% had a change in their management, 80% did not. With increasing experience, this may mean that we can develop more stringent criteria for referral to the MDT such as complex incontinence cases with failed primary treatment, those requiring secondary surgery or coexisting symptoms affecting multiple pelvic compartments. These subsequently can be audited regularly using tools that assess MDT's quality and efficacy.[30] Further, the engagement of other regional referral centers can be expanded and encouraged by using tele-medicine. Given the recommendations of various national and international bodies, there is a clear role for an MDT in the management of complex pelvic floor disorders cases. It ensures optimal care to patients where the full range of therapeutic options are considered, improves collaboration between specialties, and provides an excellent learning and teaching opportunity.

Conclusion

Following recommendations by numerous international bodies, there is a growing regulatory requirement for patients with complex pelvic floor disorders to be discussed in an MDT setting. Here, we demonstrate that these meetings are feasible and lead to a change in the management of complex patients. As these meetings evolve, there is a scope to further define what is meant by "complex" disease and refine the inclusion criteria to ensure they remain cost-effective and relevant.

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Disclosure

The authors report no conflicts of interest in this work.

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