Reminder of important clinical lesson

Somatoform abdominal pain in surgery: is SD worthy of surgical attention? Case reports and literature review

Sami Medani Abd Elwahab,¹ Eva Doherty,¹ Hashim Elsheikh²¹Department of Surgery, Midland Regional Hospital Mullingar, Mullingar, Westmeath, Ireland²National Surgical Training Centre, Royal College of Surgeons of Ireland, Dublin, Ireland

Correspondence to Dr Sami Medani Abd Elwahab, sami_medani@hotmail.com

Summary

Somatoform disorders (SD) or medically unexplained physical symptoms (MUPS) are a group of disorders that represent a group of symptoms that cannot be explained by an organic or physical pathology. These disorders are widely prevalent, and, if unrecognised, SD may lead medical professionals to embark on tests or procedures which may inflict unnecessary iatrogenic complications. Despite the high prevalence, they are only poorly included in medical training curricula, at both undergraduate and postgraduate levels. In this article, we review the literature and present two cases. The first one presented with a recurrent acute abdomen had an unnecessary CT abdomen. The second case had laparoscopy for acute right-sided abdominal pain which turned out to be normal, and was readmitted again after a short period with acute urine retention which resolved spontaneously following discussion with the patient and family. Both cases were referred for psychiatric assessment and their family doctors were informed.

BACKGROUND

Introduction

Medically unexplained physical symptoms (MUPS) and somatoform disorders (SD) represent a unique group of patients in surgery. Managing medically unexplained pain is a treatment challenge most surgeons experience at least once in their careers. Surgical procedures that are not indicated may cause iatrogenic injury. SD are found to form about one-fifth of the presentations to general physicians (GPs).^{1 2} This group of disorders is now gathering much attention in the research arena but their place in specialty training is still to be found.^{3 4}

In this article, we present cases of two teenage girls who presented with MUPS to our general surgical service. The management and diagnosis process are discussed.

Literature review

SD, somatisation disorder, and somatised depression are all terms used to label physical or organic symptoms for which a conventional pathology could not be found.⁵ These disorders, collectively called MUPS, are attracting attention among surgeons and other healthcare professionals demonstrated by a recent multidisciplinary Dutch meeting held in January 2011.⁶

In the UK, in the early 1990s, MUPS were found to be the main reason for consulting GP services in 15% in one study⁷ and up to 19%⁵ in another. In 2004, a study of the prevalence of SD in the Netherlands showed a prevalence of up to 16.1%, and when SD with only mild complaints or non-significant disturbance to quality of life was included, the prevalence went up to 21.9%.^{1 2}

A similar study was conducted in Norway. The study interviewed 1247 participants using the composite international diagnostic interview (CIDI) to estimate the prevalence, severity classes and associated comorbidities of SD. The prevalence of severe-type SD was found to be

10.2%, and the rate increased to 24.6% when SD without psychosocial or major comorbidities was included. They also found that SD comorbidity with anxiety and depression was 45%, and 43% SD with comorbid musculoskeletal disorders.⁸

In Germany, a study conducted using the CIDI together with the Well Being Index and General Health Questionnaire identified rates very similar to their Norwegian counterparts, and further concluded that depression with SD as a comorbidity had a high OR of 6.25.⁹ Another German study identified an incidence rate of 25.7%.¹⁰

In paediatrics, in a study group with a maximum age of 18 years, Gupta and colleagues found that the prevalence of SD was 0.5–0.9%. Conversion syndrome was the commonest (48.9%) followed by SD (26.7%).¹¹ Gupta found a higher male-to-female ratio of 2.2:1,¹¹ which was not in agreement with the findings of a previous study which identified female gender as a risk factor for new-onset SD.¹⁰ The commonest somatisation symptoms in children were abdominal pain and headache with a prevalence rate of 52.8% each.¹²

Pain was the most common symptom expressed in this group of disorders. Nickel *et al* studied MUPS in a population-based prevalence research in Germany. Their study was the first to examine this in a large patient cohort in a university hospital outpatient service. After excluding nociceptive and neuropathic pain, they found that the 1-year prevalence rate of SD with pain as the predominant feature was 8% with a lifetime incidence of 12.7%; this finding indicated that SD ranked as one of the most prevalent conditions in the community in Germany. They also found that 69% of these patients had a comorbid depressive or other mental disorder, 14% had comorbid personality disorder and more than 90% had other bodily symptoms in addition to pain.¹³

The fact that MUPS is quite prevalent in the community, especially among those with depressive affective disorders, led to the concept of treating depression and pain as a single continuum or disease rather than targeting each separately. Newer psychopharmacological therapies, like serotonergic–noradrenergic reuptake inhibitors, are being developed for this purpose.¹⁴ Currently, it is recommended that an antidepressant should be included in the treatment regimen of those who have chronic pain syndromes, as this has been found to effectively reduce the pain and yield better outcomes from rehabilitation.¹⁵

Clinically, SD can be divided into two categories, multi-somatoform disorder (also known as undifferentiated SD) which was defined as ‘three or more medically unexplained symptoms on going or chronic for two or more years’.¹⁶ The other category was specific SD, diagnosed when the patient presents with a single medically unexplained symptom. Specific SD was examined by Grabe HJ and colleagues in Germany in 2003. He concluded that specific SD formed 1.3% of those who were previously diagnosed with undifferentiated SD, and that this subgroup suffered severe impairment, worse quality of life and had a higher rate of self-referral to medical services.¹⁷

The natural course, or stability, of SD can be variable with periods of flare ups. Lieb and colleagues concluded in their study published in 2002 that the incidence rate for any given SD was 25.7%. Risk factors for the onset of new somatoform conditions, as well as increasing risk of flare ups in pre-existing SD, were female gender, lower social class, previous substance abuse, anxiety and affective disorder as well as the experience of traumatic sexual and physical threat.¹⁰

At the recent Dutch multidisciplinary meeting for MUPS and SD, the disease was stratified according to severity and risk profiles for purposes of management strategies. Patients with a ‘minor risk’ profile were recommended to have psycho-education. This should be led by the family physician on the basis of knowledge of the patient’s familial and social environment. The ‘moderate risk’ profile included those who had SD complicated by comorbid depression, anxiety disorder or a somatic disorder. The prognosis was judged to be favourable in these cases only when this comorbidity was treated. The ‘serious risk’ profile was assigned to patients with long-term SD who embarked on surgical intervention for MUPS, and their MUPS was associated with a disturbed patient–doctor relationships. In these patients, more surgery was associated with high risk of catastrophic consequences. The management target in these patients was to limit iatrogenic unnecessary harm, and improve doctor–patient rapport, which in such cases was judged to be the highest priority. Further surgical procedures was thought to be associated with very poor outcome.⁶

The GP was identified at the Dutch multidisciplinary meeting to hold the lead role in the management of SD. The GP should provide the stepped care necessary for these patients, and should obtain psychiatric consultation or inpatient treatment for severe cases when appropriate. If the patient–doctor relationship with the GP was poor, this would suggest that the patient was in the high-risk profile.³

The issue of training in SD and MUPS was discussed in a special conference on unexplained physical symptoms

held by the *Dutch Journal of Medicine Association* in 2006. The meeting concluded that both the theoretical and practical training in the diagnosis and management of unexplained physical symptoms was inadequate in both university curricula and postgraduate training programmes for medical specialists. It further added that scientific research in this field was urgently needed.⁴ The research in the area of prevention and patient–doctor relationship was also described as scanty when reviewed in the Dutch MUPS meeting.³ The need for scientific research was further emphasised by Hanel and his colleagues in 2009, who also believed that the GP perspective in diagnosing these conditions was often neglected.¹⁸

CASE PRESENTATION

First case

The first case is a 17-year-old girl who was referred to the emergency department with acute abdominal pain. The pain was sudden onset in the right side. It was sharp, severe, not radiating and aggravated by any movement. She had nausea but no vomiting, and no other systemic symptoms. She was tender and guarding over the right iliac fossa and lumbar region. Bowel sounds were normal. Her routine bloods, biochemical profiles including porphyrin screening, inflammatory markers and urinalysis were normal. Pregnancy test was negative. An abdominal and pelvic ultrasound (U/S) were both unremarkable apart from a small amount of free pelvic fluid which was reported as being within normal physiological limits. She was admitted, given IV fluid and analgesics and kept under observation. During her admission, she manifested quite an inconsistent variation on her abdominal examination over the same day with the same examiner. Nevertheless, she continued to complain of pain and her analgesic requirement did not decrease. In the presence of her mother, she was consented for a CT abdomen and pelvis. It was reported to be normal. Reviewing the previous notes of the patient, she was found to have had multiple admissions with abdominal pain; all incidences were concluded to be non-specific pain. She had multiple investigations and radiological tests in each admission, including multiple ultrasound scans, and they were all within normal limits. Her GP was contacted for further information regarding her attendances at his surgery and he confirmed that she was a frequent attender with very variable and inconsistent symptoms which in most incidences subsided spontaneously, or responded well to placebos.

Second case

The second case was a 14-year-old girl who presented for the third time over about 5 months to the emergency department with right iliac fossa pain and tenderness, no guarding or rigidity. Her bloods were normal in all incidences and a pelvic ultrasound showed no abnormality. In her last admission, a decision was made to proceed to laparoscopy, and no significant abnormality was detected. She was discharged after she recovered uneventfully. The patient presented again 3 days later to the ward complaining of acute urine retention. A catheter was passed and she had a residual volume of about 800 ml. She was investigated to exclude any physical causes of acute urine retention, including plain kidney–ureters–bladder (KUB)

x-ray, ultrasound abdomen and pelvis, and uroflowmetry and no physical cause was identified.

TREATMENT

Management

In both cases, a second opinion was obtained and the diagnosis of somatisation disorder/MUPS was reached. The surgical team decided to explain this diagnosis to both patients in the presence of their families. The objective of these family meetings was to create more understanding of the situation, enhance family support and prepare the patients and family for a professional psychiatric assessment. At the outset, only the first patient, the 17-year-old, objected to the diagnosis but did not refuse the psychiatric referral. Both families accepted and agreed with the diagnosis of SD and with the proposed plan. Both patients were referred for psychiatric assessment.

DISCUSSION

Both patients reported above were diagnosed with SD. The inconsistent history and variation of abdominal examination by a single examiner supported the diagnosis in each case. The family doctor's input in the first case further added to the confidence in reaching the diagnosis of SD.

The predicament in both cases was whether to settle for a diagnosis of SD or further pursue an organic or physical diagnosis. It was felt that diagnosing such a disorder should be by exclusion of other physical pathologies. This was difficult to achieve in these cases without the associated investigative tests and procedures. Discussing both cases afterwards in a surgical meeting with the aim of avoiding iatrogenic harm was vital and added to the team's confidence to reach the final diagnosis.

With hindsight, both patients were engaged in medical procedures which turned out to be unnecessary. The first case had a CT scan of the abdomen which was reported to be within normal limits. Indeed it helped to exclude any serious physical pathology but in retrospect it was an unnecessary significant dose of radiation that could have been avoided. An MRI scan was not considered at the time because of the severity of the symptoms and the fact that the facility does not have an MRI at site and no access to emergency MRI scans. Nevertheless, retrospectively, it would have been a more appropriate diagnostic approach.

The second case had a laparoscopic procedure, the result of which was also within normal physiological limits. At the time, the patient had an ultrasound scan which was normal, and laparoscopy was indicated to further investigate her acute abdomen. It was a necessary investigative procedure to arrive at the diagnosis of MUPS or SD in this patient, but retrospectively it posed an iatrogenic risk that could have been avoided. The presentation after discharge from hospital with acute urine retention, which could not be explained medically, was diagnosed as another attack of somatisation brought up by the recent decision to refer to the psychiatric service. This was further confirmed by a period of close observation in hospital following catheter removal. During that period of observation, the patient showed no difficulty with passing urine and her urinalysis was clear on multiple

occasions. Due to the significant volume of residual urine drained upon catheterisation, the patient was again investigated to exclude physical causes of acute urine retention. Retrospectively, that new set of investigations was also unnecessary. According to the Dutch guidelines in MUPS, this patient was high-risk profile on the MUPS spectrum and she required psychiatric treatment.

Both patients manifested risk factors for SD. Other than female gender, both patients were known to their GPs as potential SD. They both had multiple visits to their GPs with inconsistent variable symptoms, had disease courses and symptoms that are not consistent with any specific clinical diagnosis.

In both cases the families accepted the diagnosis of SD. Both families played a central role in managing the patients, and they understood why no surgical intervention was recommended and they understood the concept of avoiding iatrogenic harm. This meant that the psychiatric assessment was acceptable to the patients.

The GPs of both patients were informed of the final decision and the plan to seek psychiatric advice.

CONCLUSION

SDs have a high incidence and prevalence rate in the community and in acute medical services. The recognition and diagnosis of SD require a high degree of awareness and experienced clinical judgement by medical teams in order to avoid unnecessary iatrogenic complications. Good communication with the patient and family is mandatory in the management of these patients. Treatment should be led by the GP. Although not a psychotic illness, SD patients require psychiatric assessment to exclude comorbid psychiatric disease, and to commence cognitive behavioural therapy which is the treatment of choice in most cases. More theoretical and practical training is required in this subject at both undergraduate and postgraduate levels.

Learning points

- ▶ SD is widely prevalent in the acute medical settings as well as in community and clinicians need to be aware of it.
- ▶ Diagnosis of SD needs high awareness, knowledge and experience.
- ▶ Need to avoid unnecessary investigations and iatrogenic complications.
- ▶ Communication and early involvement of family physician is critical in the management of those patients.
- ▶ Psychiatric assessment is an important part in the management of these patients.
- ▶ More training is required in this subject at under and post-graduate levels.

Competing interest None.

Patient consent Obtained.

REFERENCES

1. **De Waal MW**, Arnold IA, Eekhof JA, *et al.* Somatoform disorders in general practice: prevalence, functional impairment and comorbidity with anxiety and depressive disorders. *Br J Psychiatry* 2004;**184**:470–6.
2. **De Waal MW**, Arnold IA, Eekhof JA, *et al.* Somatoform disorders in general practice: prevalence, functional limitations and comorbidity with anxiety and depression. *Ned Tijdschr Geneesk* 2006;**150**:671–6.
3. **Van der Feltz-Cornelis CM**, Hoedeman R, Keuter EJ, *et al.* Presentation of the multidisciplinary guideline medically unexplained physical symptoms (MUPS) and somatoform disorder in the Netherlands: disease management according to risk profiles. *J Psychosom Res* **72**:168–9.
4. **Van der Mast RC**. Unexplained physical symptoms: a widespread problem but still low-profile in training programs and guidelines. *Ned Tijdschr Geneesk* 2006;**150**:686–92.
5. **Burton C**. Beyond somatisation: a review of the understanding and treatment of medically unexplained physical symptoms (MUPS). *Br J Gen Pract* 2003;**53**:231–9.
6. **Van der Feltz-Cornelis CM**, Swinkels JA, Blankenstein AH, *et al.* The Dutch multidisciplinary guideline entitled 'Medically unexplained physical symptoms and somatoform disorder'. *Ned Tijdschr Geneesk* 2011;**155**:A1244.
7. **Mumford DB**, Devereux TA, Maddy PJ, *et al.* Factors leading to the reporting of 'functional' somatic symptoms by general practice attenders. *Br J Gen Pract* 1991;**41**:454–8.
8. **Leiknes KA**, Finset A, Moum T, *et al.* Current somatoform disorders in Norway: prevalence, risk factors and comorbidity with anxiety, depression and musculoskeletal disorders. *Soc Psychiatry Psychiatr Epidemiol* 2007;**42**:698–710.
9. **Mergl R**, Seidscheck I, Allgaier AK, *et al.* Depressive, anxiety, and somatoform disorders in primary care: prevalence and recognition. *Depress Anxiety* 2007;**24**:185–95.
10. **Lieb R**, Zimmermann P, Friis RH, *et al.* The natural course of DSM-IV somatoform disorders and syndromes among adolescents and young adults: a prospective-longitudinal community study. *Eur Psychiatry* 2002;**17**:321–31.
11. **Gupta V**, Singh A, Upadhyay S, *et al.* Clinical profile of somatoform disorders in children. *Indian J Pediatr* 2011;**78**:283–6.
12. **Bisht J**, Sankhyam N, Kaushal RK, *et al.* Clinical profile of pediatric somatoform disorders. *Indian Pediatr* 2008;**45**:111–15.
13. **Nickel R**, Hardt J, Kappis B, *et al.* Somatoform disorders with pain as the predominant symptom: results to distinguish a common group of diseases. *Schmerz* 2009;**23**:392–8.
14. **Henningsen P**, Lowe B. Depression, pain, and somatoform disorders. *Curr Opin Psychiatry* 2006;**19**:19–24.
15. **Petrova NN**. Psychopathological aspects of pain syndrome in somatoform disorders. *Klin Med (Mosk)* 2002;**80**:61–4.
16. **Kroenke K**, Spitzer RL, deGruy FV III, *et al.* Multisomatoform disorder: an alternative to undifferentiated somatoform disorder for the somatizing patient in primary care. *Arch Gen Psychiatry* 1997;**54**:352–8.
17. **Grabe HJ**, Meyer C, Hapke U, *et al.* Specific somatoform disorder in the general population. *Psychosomatics* 2003;**44**:304–11.
18. **Hanel G**, Henningsen P, Herzog W, *et al.* Depression, anxiety, and somatoform disorders: vague or distinct categories in primary care? Results from a large cross-sectional study. *J Psychosom Res* 2009;**67**:189–97.

This pdf has been created automatically from the final edited text and images.

Copyright 2012 BMJ Publishing Group. All rights reserved. For permission to reuse any of this content visit <http://group.bmj.com/group/rights-licensing/permissions>.
BMJ Case Report Fellows may re-use this article for personal use and teaching without any further permission.

Please cite this article as follows (you will need to access the article online to obtain the date of publication).

Abd Elwahab SM, Doherty E, Elsheikh H. Somatoform abdominal pain in surgery: is SD worthy of surgical attention? Case reports and literature review. *BMJ Case Reports* 2012;10.1136/bcr-2012-006306, Published XXX

Become a Fellow of BMJ Case Reports today and you can:

- ▶ Submit as many cases as you like
- ▶ Enjoy fast sympathetic peer review and rapid publication of accepted articles
- ▶ Access all the published articles
- ▶ Re-use any of the published material for personal use and teaching without further permission

For information on Institutional Fellowships contact consortiasales@bmjgroup.com

Visit casereports.bmj.com for more articles like this and to become a Fellow