Other full case

A case of immune thrombocytopenic purpura secondary to endometriosis causing a pelvic haematoma

Saliya Chipwete,¹ Yogesh Jethava,² Janice Rymer³¹Obstetrics and Gynaecology, Guy's and St Thomas' Hospital, London, UK;²Department of Haematology, Guy's and St Thomas' Hospitals, London, UK;³Department of Women's Health, King's College School of Medicine, London, UK

Correspondence to Saliya Chipwete, schipwete@doctors.org.uk

Summary

The authors present a case of a 51-year-old woman with endometriosis who developed immune thrombocytopenic purpura. Her platelets dropped to $2 \times 10^9/l$, and she had haemorrhage into her right endometrioma causing a large pelvic haematoma. She also had renal failure secondary to endometriosis compressing the right ureter. She was treated with immunoglobulin and steroids with subsequent recovery of platelet count and underwent ureteric stenting to prevent worsening renal function.

BACKGROUND

Immune thrombocytopenic purpura (ITP) is defined as an isolated thrombocytopenia with no clinically apparent associated conditions or other causes of thrombocytopenia.¹ It is mediated by platelet autoantibodies that accelerate platelet destruction and inhibit their production. Most cases are considered idiopathic, whereas others are secondary to coexisting conditions. In this paper, we describe a case of a 51-year-old woman with endometriosis who developed ITP. It is thought that an altered immune function could be a possible link between the two conditions.

CASE PRESENTATION

A 51-year-old woman presented to the Accident and Emergency (A&E) department with intermittent abdominal pain for 2 months. She had been using Ibuprofen as required for pain relief. There was no history of weight loss, night sweats, joint pain, photosensitivity and hair loss. There was no history of gastrointestinal, genitourinary bleeding, cough or any recent viral infection. She also did not have a history of any known underlying malignancy. She had a history of hypertension and asthma and her regular medications included losartan 100 mg once a day, bendroflumethiazide 2.5 mg once a day, ferrous sulphate, paracetamol and Sando-K. Of note, she had a total abdominal hysterectomy 5 months previously for very heavy menstrual bleeding due to uterine fibroids. Ten days postoperatively, she had an evacuation of a subrectus haematoma (about 300 ml of clot). At the time of the hysterectomy she had normal tubes and ovaries but was noted to have endometriosis scarring the left uterosacral and broad ligaments. Her subsequent recovery was complete and uneventful. Her investigations showed platelets of $114 \times 10^9/l$ and haemoglobin of 12.6 g/dl. The rest of her blood investigations were normal. She was given dihydrocodeine for pain relief and sent home.

Two weeks later, she presented to A&E with a 3-day history of rash on her legs, blisters on her tongue and mild

abdominal cramps. On examination she had blood blisters on the tongue, petechial rash on the legs and an abdominal swelling in the infra-umbilical region. There was no lymphadenopathy or organomegaly.

INVESTIGATIONS

Full blood count showed that her platelets had dropped to $2 \times 10^9/l$ with haemoglobin of 11.8 g/dl and the other blood results were normal. A blood film confirmed thrombocytopenia without any abnormality in red cell or white cell morphology. She was reviewed by the haematologists and based on her history, presenting complaints and blood results, ITP was diagnosed. She complained of persistent abdominal pain, her haemoglobin dropped to 9.6 g/dl and her renal function worsened with creatinine of 101 $\mu\text{mol/l}$. A CT scan of the abdomen and pelvis showed a 7 cm complex cystic pelvic mass in the right adnexa and left-sided hydronephrosis. Further investigations such as transvaginal ultrasound scan showed an avascular mass in the right adnexa with mixed internal echoes, with solid and cystic areas not separate to the ovary, which could represent a haematoma or an ovarian lesion. Tumour markers were normal. MRI scan of the pelvis showed that she had an acute on chronic haemorrhage within a right endometrioma. There was evidence of deep pelvic endometriosis with pelvic adhesions tethering the ovaries and rectosigmoid and also engulfing the left ureter leading to left hydronephrosis.

TREATMENT

She was initially treated with prednisolone and omeprazole. When her haemoglobin dropped further, to expedite platelet recovery, she was treated with immunoglobulin and intravenous methylprednisolone. The platelet count started improving within 2 days and there was no subsequent drop in the haemoglobin. To prevent further deterioration of renal function, she underwent ureteric stenting with improvement of renal function.

OUTCOME AND FOLLOW-UP

She made a good recovery. Her platelets improved and the haematoma did not increase in size. Her renal function went back to normal. She will be followed up in the gynaecology outpatient department for treatment to her endometriosis.

DISCUSSION

ITP is defined by a low platelet count, normal bone marrow and the absence of other causes of thrombocytopenia.¹ ITP can be associated with several disorders. Primary ITP is the diagnosis of exclusion, from secondary immune thrombocytopenia and non-immune causes such as myelodysplasia and aplastic anaemia. Secondary ITP is seen in association with chronic infections (eg, *Helicobacter pylori*, HIV, hepatitis C virus) and autoimmune conditions like systemic lupus erythematosus. ITP results from antiplatelet autoantibodies, usually of the IgG class, which cause platelet destruction in the reticuloendothelial system.² The pathology, natural history and response to therapy of the diverse causes of secondary ITP differ from each other and from primary ITP. Hence accurate diagnosis is essential for management. The possible mechanisms include cross-reacting antibodies produced in response to bacterial or viral antigens, which react with platelet antigens, immune complexes causing platelet destruction by binding to the Fcγ receptors (eg, hepatitis C infection), infection of megakaryocyte precursors in bone marrow and decreased production of thrombopoietin.³

There is evidence suggesting an association between endometriosis and changes in humoral and cell-mediated immunity.^{4,5} It is now accepted that the immune system is involved in the pathogenesis of endometriosis. Although the peritoneal fluid of women with endometriosis contains increased numbers of immune cells, these facilitate rather than inhibit the development of endometriosis. Also, endometriotic lesions secrete several proinflammatory molecules and the pelvic inflammation in women with endometriosis contributes to the development of their most common complaints, pain and infertility.⁶⁻⁸ Amigo and colleagues speculated that development of

Learning points

- ▶ This rare complication should be kept in mind while treating patients with endometriosis.
- ▶ Timely treatment of ITP will prevent life-threatening bleeding.

endometriosis may prompt a humoral response in some women, which results in the production of autoantibodies to cell antigens which may cross-react with the platelet proteins causing the ITP. As far as we know, there is only one case report in the literature of ITP in association with endometriosis.⁹

The aim of treatment for ITP is to prevent life-threatening bleeding. Our patient responded well to the treatment as her haemoglobin did not drop further and a repeat scan showed her haematoma had not increased in size. The proinflammatory molecules in the patient with endometriosis can possibly trigger ITP and can lead to life-threatening haemorrhage.

Competing interests None.

Patient consent Obtained.

REFERENCES

1. **George JN**, Woolf SH, Raskob GE, *et al*. Idiopathic thrombocytopenic purpura: a practice guideline developed by explicit methods for the American Society of Hematology. *Blood* 1996;**88**:3–40.
2. **George JN**, el-Harake MA, Raskob GE. Chronic idiopathic thrombocytopenic purpura. *N Engl J Med* 1994;**331**:1207–11.
3. **Cines DB**, Liebman H, Stasi R. Pathobiology of secondary immune thrombocytopenia. *Semin Hematol* 2009;**46**(1 Suppl 2):S2–14.
4. **Dmowski WP**. Immunological aspects of endometriosis. *Int J Gynaecol Obstet* 1995;**50**(Suppl 1):3–10.
5. **Gleicher N**. Immune dysfunction—a potential target for treatment in endometriosis. *Br J Obstet Gynaecol* 1995;**102**(Suppl 12):4–7.
6. **Nothnick WB**. Treating endometriosis as an autoimmune disease. *Fertil Steril* 2001;**76**:223–31.
7. **Seli E**, Arici A. Endometriosis: interaction of immune and endocrine systems. *Semin Reprod Med* 2003;**21**:135–44.
8. **Giudice LC**, Kao LC. Endometriosis. *Lancet* 2004;**364**:1789–99.
9. **Amigo ML**, Caballero MD, Vazquez L, *et al*. Immune thrombocytopenic purpura in secondary to endometriosis. *Haematologica* 1997;**82**:602–3.

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

Copyright 2011 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).

Chipwete S, Jethava Y, Rymer J. A case of immune thrombocytopenic purpura secondary to endometriosis causing a pelvic haematoma. *BMJ Case Reports* 2011;10.1136/bcr.09.2010.3329, date of publication

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