Abdominal mass and a forgotten haemorrhagic fever

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In April, 2009, a 37-year-old woman was admitted to the department of obstetrics and gynaecology with a 3-day history of lower abdominal pain, localised to her right iliac fossa. Her pain had started after a protracted bout of coughing. 3 days before her pain started she had developed a fever, which was associated with chills and a non-productive cough. Her fever had resolved by the time of admission. She had suffered from regular heavy menstruation for some years, and had been diagnosed, in 2003, with adenomyosis, which resulted in symptomatic anaemia. 10 days before admission she had been treated with a blood transfusion and started on oral contraceptive pills and haematinics. On examination, her right iliac fossa was tender, and a mass of diameter 16 cm was felt in her pelvis and lower abdomen. She had no cervical excitation, and a pregnancy test was negative. On admission, her haemoglobin was 105 g/L and white blood cell count was $4{\cdot}93\times10^9$ per L. She had thrombocytopenia (108×10^9 per L), whereas 13 days earlier her platelet counts had been in the normal range (272×10^9 per L). Her prothrombin time was prolonged at 15·1 s (normal is less than 14·5 s), and her INR was 1·23. Both ultrasonography and CT of our patient's abdomen showed a bulky globular uterus with coarse myometrium suggestive of adenomyosis. However, the pelvic-abdominal mass was mostly due to an organising haematoma in the rectus sheath (figure).

We did further investigations to establish the cause of her fever. No malarial parasites were seen on her blood film, however, serology indicated a recent dengue virus infection; she was positive for IgM antibodies, but negative for IgG antibodies. As a result of the positive serology, combined with thrombocytopenia and prolonged prothrombin time, she was diagnosed as having bled into the rectus sheath owing to dengue infection. As a coincidental finding, CT also showed a left femoral vein thrombosis, and doppler ultrasound studies showed an extensive deep venous thrombosis in the left leg. Thrombophilia screens were normal for proteins S and C, and anti-thrombin III concentrations. To manage the deep venous thrombosis, her oral contraceptive pills were discontinued and a filter was inserted into the inferior vena cava; anticoagulation therapy was delayed for 5 days to allow the haematoma to stabilise. After her platelet counts had returned to normal, she was started on lifelong warfarin prophylaxis. Her haematoma was managed conservatively without drainage. 6 months later her rectus thrombus had resolved completely, and menorrhagia was noted to have stabilised on final follow-up in April 2010.

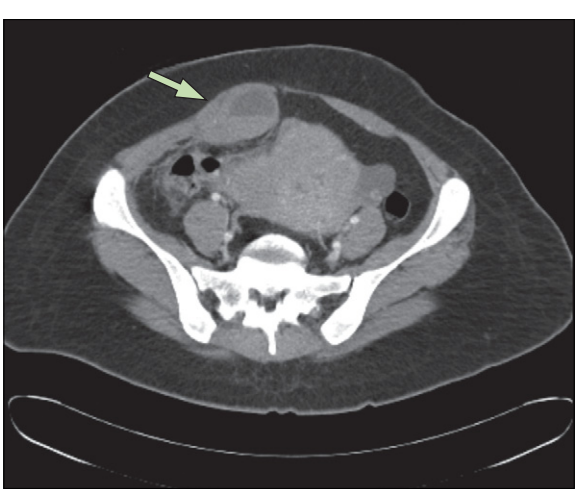

Figure: **Rectus sheath haematoma**
Axial CT showing haematoma within the rectus sheath (arrow).

This common combination of abdominal pain and a pelvic mass could be misdiagnosed as appendicitis, a complication of an ovarian cyst, or other acute intraperitoneal disease, resulting in unnecessary laparotomy.[1] However, the occurrence of fever, chills, respiratory-tract symptoms, and thrombocytopenia suggested a viral fever. Although abdominal pain is a common symptom of dengue, haemorrhage into the rectus sheath as a result of the infection is rare.[2,3] Nonetheless, the incidence of rectus sheath haematoma is increasing owing to the widespread use of anticoagulants, with some two-thirds of patients being on anticoagulation at time of diagnosis.[4] Although dengue fever is a self-limiting disease in most cases, capillary fragility and low platelet counts can result in haematemesis, melena, menorrhagia, epistaxis, and intracranial haemorrhage.[2] Awareness of rectus sheath haematoma and dengue fever as a causal factor can reduce unnecessary operative morbidity.

Contributors
All authors contributed to writing and revising the report. PT and CJY were involved in patient management. Written consent to publish was obtained.

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