

CASE REPORT

## Treatment of endometriotic catamenial haemoptysis with etonogestrel subdermal implant

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### Case report

A 36 year old multiparous woman who was known to have pelvic endometriosis was referred from the Chest Clinic with a view to the treatment of her pulmonary endometriosis manifesting as catamenial haemoptysis. Her gynaecologic history included a diagnostic laparoscopy three years previously for investigation of lower abdominal pain, dysmenorrhoea and deep dyspareunia. This revealed widespread pelvic endometriosis with numerous active focuses in the pouch of Douglas and uterosacral ligaments. Post-operatively, she was offered a range of treatment options including a combined oral contraceptive pill, danazol, goserelin, depot medroxyprogesterone acetate and surgical ablation. She opted for a combined oral contraceptive pill in a 'tricycling' regimen to reduce the frequency of pill withdrawal periods and after 18 months follow up, she was discharged back to her general practitioner.

She had been referred to the Chest Clinic following an episode of substantial haemoptysis at the time of a menstrual period. She gave a history of several previous episodes of minor haemoptysis, each concurrent with her periods. She had no fever, chronic cough, weight loss or contact with tuberculosis. Physical examination was unremarkable. Her chest X-ray was normal and microscopy and culture of sputum for *Mycobacterium tuberculosis* was negative. Fibre-optic bronchoscopy showed normal endobronchial appearances. Considering the history of pelvic endometriosis and the temporal relation between episodes of haemoptysis and menstrual periods, pulmonary endometriosis was suspected. A computed tomography scan of her chest was carried out on the second day of menstruation. This was reported as showing an area of air-space filling in the right upper lobe consistent with a patch of blood within the

lung parenchyma. There appeared to be a central nodule to this area that could represent an endometrioma (Fig. 1). The radiologist recorded that the patient had coughed up blood within hours of the onset of menstruation the previous day. A repeat computed tomography scan two weeks later showed no sign of the previously observed lesion.

On review in the gynaecology clinic, it emerged that she had a levonorgestrel releasing intrauterine system (Mirena) inserted by her general practitioner six months after her previous discharge from follow up. This reduced the menstrual flow but her periods remained regular and moderately painful. Pelvic examination was unremarkable. She was offered an etonogestrel subdermal contraceptive implant (Implanon) on the basis that, in addition to providing highly effective alternative contraception, it would suppress menstruation and therefore cure her catamenial haemoptysis. Following insertion of the implant, she experienced irregular bleeding for three months. Thereafter, she remained amenorrhoeic and she had no further haemoptysis during 24 months of follow up.

### Discussion

Endometriosis is a common gynaecologic disorder with peak prevalence between 30 and 45 years of age and a frequency of occurrence between 10% and 25% of women presenting with gynaecologic symptoms.<sup>1</sup> It is most commonly found in the pelvis and only rarely in sites such as the umbilicus or lungs. Pulmonary endometriosis gives rise to the symptom of catamenial haemoptysis. Occasionally, it presents in a more complicated form such as pneumothorax or mass of blood clot in the chest.

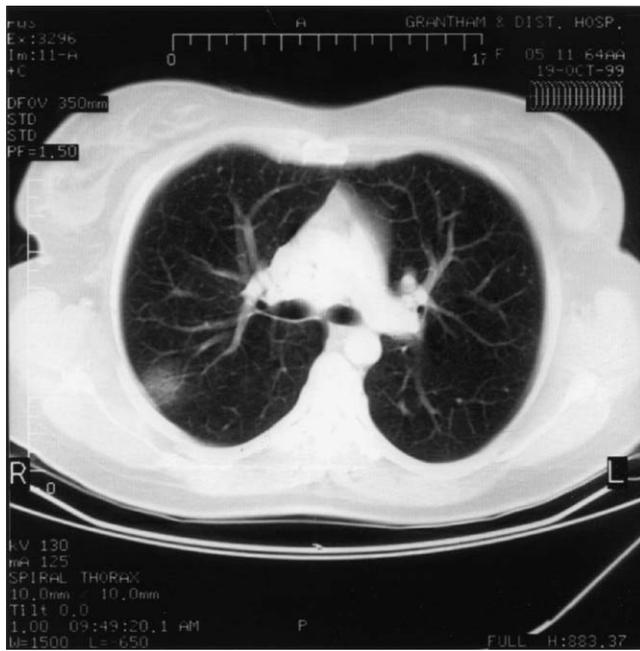
The aetiology of pulmonary endometriosis is unknown but the theories of haematogenous spread<sup>2</sup> and coelomic metaplasia<sup>3</sup> are plausible. The diagnosis is often a presumptive one based on the typical history of cyclical haemoptysis at the time of menstruation. Other diagnostic aids include endometriotic plaques on bronchial washings and endometrial tissue on lung biopsy. However, these may be negative despite the presence of the disease. The imaging technique of choice is computed tomography scan of the chest during the days of menstruation and in midcycle.<sup>4</sup> This may show a

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**Fig. 1.** Spiral computed tomogram of upper chest showing patchy infiltration consistent with blood clot in the right upper lobe.

‘ground-glass’ or patchy-infiltrate appearance during the menstrual days and clear lung fields in midcycle.

The reported treatment regimens are surgical excision if localised<sup>5,6</sup> or medical treatment. The drugs that have been used include danazol,<sup>7</sup> the combined contraceptive pill<sup>8</sup> and gonadotrophin releasing hormone analogues.<sup>9,10</sup> The side effects and patient compliance with these drugs influence the duration and outcome of treatment.

Implanon is a single-rod subdermal implant containing 68 mg etonogestrel, a potent progestogen. It is licensed for use as a long term contraceptive with three years efficacy. It is generally well tolerated and has a side effect profile comparable with, or better than, other long-acting progestogen contraceptives. The mechanism of action is by inhibition of ovulation. It has also been shown to induce

endometrial atrophy,<sup>11</sup> which should cause regression of ectopic endometrial tissue. This was the principal underlying treatment in our patient, leading to complete resolution of her haemoptysis as well as providing contraception.

A review of the world literature shows that this is the first reported case of endometriotic catamenial haemoptysis successfully treated with an etonogestrel subdermal implant (Implanon).

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