legs, face, feet, groin and pubic region. He had first noticed a lumpy scar after a minor shaving injury as a teenager. He had later developed bilateral axillary keloids as a result of irritation from use of deodorants. At age 55 years, after bilateral hernia repairs, keloid scars had appeared in the groin. Some of the scars, particularly on the face and neck, had become smaller in his 80s. His father had had multiple large keloid scars in several anatomical locations. Three out of his four sons had keloid scars; three out of four daughters were also affected and one granddaughter had a keloid.

COMMENT

The pathogenesis of keloid scarring remains an enigma.¹ The three cases reported here illustrate the association of severe scarring with a positive family history and black African ethnic origin^{2–5} (though a similar condition can arise in Europeans).

The special feature of the cases reported here is their unusual extent and severity, reminiscent of neoplastic disease. In such cases even an experienced clinician may have difficulty ruling out malignancy. However, in the present series and in a previous case from Kingston, Jamaica,⁶ the histology was typical of a keloid scar—i.e. nodular fibroblastic proliferation of the dermis. Several familial syndromes have been associated with keloid scars including Rubinstein–Taybi⁷ and Goeminne syndrome⁸ and conjunctivo-corneal dystrophy⁹ but none of these conditions was found in any of our cases. Patient 2 had a uterine fibroid, a benign fibrous growth which like keloids seems most common in dark-skinned individuals and tends to recur after treatment.

As regards treatment, all three patients had been unresponsive to conventional strategies, with the recurrent lesions sometimes worse than the original. Two patients (1 and 2) had experienced psychosocial difficulties requiring counselling and are being considered for novel treatments such as local or systemic chemotherapeutic agents. 5-fluorouracil and bleomycin have been previously used with variable success.¹⁰

Acknowledgments We thank the clinical and clerical staff at the Department of Plastic Surgery based at the Kingston Chest and University of West Indies, Mona, for their help and the Medical Research Council, UK, and the Royal College of Surgeons of Edinburgh/Ethicon Travel Award for financial support.

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Haemopneumothorax after fine needle aspiration of the breast

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J R Soc Med 2003;**96**:555–556

Fine needle aspiration (FNA) of the breast is commonly performed without image guidance. Complications are rare but can be serious.

CASE HISTORY

A woman of 54 was referred to the breast unit with a recurrent tender left upper outer quadrant mass. Mammography showed an asymmetrical density with no features of carcinoma. 'Blind' (non-image-guided) FNA yielded insufficient cells for diagnosis. Six weeks later she returned for a further blind FNA, subsequently reported as showing red blood cells and normal epithelial cells. 32 hours after the second FNA she was seen in the emergency department with left-sided pleuritic chest pain and dyspnoea. She was cyanosed, with a respiratory rate of 22 per minute and oxygen saturation 88% on air. Her trachea was deviated to the right. There was reduced expansion and air entry on the

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left, associated with ipsilateral chest wall tenderness. Pulse rate was 110 per minute and blood pressure 88/58 mmHg. Haemoglobin was 12.1 g/dL, coagulation normal; white cell count $16.1 \times 10^9/L$; platelet count $382 \times 10^9/L$.

Needle thoracocentesis in the second intercostal space yielded 800 mL of air. A chest X-ray subsequently showed a large left-sided haemothorax without residual pneumothorax. She remained breathless and a size 26 chest drain was inserted with immediate drainage of 1200 mL blood. Over the next 2 hours the chest drain produced a further 1200 mL. Despite 2 units of blood, 1 L colloid and 2 L crystalloid via a central line she remained hypotensive and the thoracic surgeons recommended urgent thoracotomy. At operation the source of bleeding was located at the apex of the lung. A vascular adhesion had become disrupted by the development of the pneumothorax that followed the FNA. Postoperatively she spent 4 days in intensive care, requiring a total of 14 units of blood and 8 units of fresh frozen plasma.

COMMENT

FNA is the fastest and easiest method of breast biopsy, and the results are rapidly available. Pneumothorax is a recognized complication, with an incidence ranging from 0.01% to 3%.² Risk factors are deep breast lumps, thin body build and breath-holding during the procedure. The complication has been associated with FNA in any of the four quadrants of the breast but especially with aspiration in the outer upper quadrant. In 50–80% of cases no specific treatment is needed; the remainder require insertion of a chest drain.^{3,4} Haemopneumothorax following FNA of a breast lump has not to our knowledge been previously reported. In the present case the bleeding was life-threatening and required open thoracotomy, although thoracoscopy⁵ might have been an alternative.

The risk of pneumothorax can be lessened by technique: the patient should breathe normally⁴ and the needle should be inserted into the mass parallel rather than perpendicular to the chest wall whenever possible^{2,3} especially in thin patients² with small breasts. In addition, blind aspiration is giving way to image-guided methods, the simplest of which is ultrasound.⁶ If the lesion is visible ultrasonically, the needle can be followed in real time to its destination. Other methods of image guidance are CT,^{6,7} stereotactic mammography⁸ and MR.⁹ MR-guided biopsy is not yet widespread but is likely to be used increasingly by hospitals and diagnostic centres.

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Periprosthetic tuberculous breast infection

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J R Soc Med 2003;**96**:556–557

If persistent exudates occur in association with breast implants it is important to think of mycobacteria.

CASE HISTORY

A woman of 31 was referred to the chest clinic in January 2001 with weight loss and sweats. She had not lived or travelled abroad and had been well in the past apart from mild migraine and asthma. In 1997 she had had bilateral silicone breast augmentation prostheses inserted. Chest X-ray showed left apical shadowing. Physical examination and blood tests were normal. She was unable to produce sputum for culture and would not agree to bronchoscopic lavage for suspected tuberculosis. CT-guided lung biopsy showed some caseating necrosis with occasional multinucleated giant cells. Although stains and culture for mycobacteria were negative, tuberculosis was thought the

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