

## Bilateral pneumothorax following breast augmentation: Beware and be aware

Sir,

Breast augmentation is one of the most commonly performed aesthetic surgeries across the globe. The common complications reported with the procedure are haematoma, infection, capsular contracture, breast asymmetry, rupture or rotation of the implant.

Here, we report a case of bilateral pneumothorax following breast augmentation in order to create awareness among plastic surgeons and practitioners.

A 25-year-old unmarried woman was brought to the emergency room for difficulty in breathing and chest discomfort of four days which got worse over three hours. She denied any history of injury, breath-holding activity, fever, chills, night sweats, cough, haemoptysis, or any previous illnesses. She was a non-smoker and denied any illicit drug use. She underwent bilateral breast augmentation surgery four days ago as a day care procedure elsewhere. She had been complaining of pleuritic chest pain and non-

productive cough associated with mild dyspnoea during immediate postoperative period.

On examination, she was conscious, oriented, acyanotic, tachypnoeic, dyspnoeic, tachycardic and her oxygen saturation was 89% on room air with bilateral decreased air entry and hyper resonant on percussion. Her arterial blood gas analysis revealed acute respiratory alkalosis and hypoxemia. Chest radiograph showed bilateral pneumothorax with collapsed lung (30% on right side, 20% on left side). Chest drain was inserted into both pleural cavities, subsequently her dyspnoea improved and drain was removed on day four. Her thoracic CT scan did not demonstrate any emphysematous change or bulla in the expanded non-atelectatic lung parenchyma.

On further discussion with the operated cosmetic surgeon, the bilateral breast augmentation was done with saline gel implants (210 ml on right and 230 ml on left), via the axillary route in the subpectoral plane, under local anaesthesia with intravenous sedation. He infiltrated lidocaine with 22-gauge spinal needle to achieve field block and at no stage there was a suspicion of penetration of the needle through the intercostal space. Subpectoral pocket was created under direct visualisation by blunt dissection with his fingers. The surgery lasted for about two hours and it was uneventful.

Pneumothorax has been reported as a rare complication of breast augmentation but the exact incidence is not known.<sup>[1]</sup> However, a recent survey of Californian Plastic Surgeons concluded that the incidence of pneumothorax could be more prevalent than previously reported and no definite precipitating factor could be established.<sup>[2]</sup> Various mechanisms of its causation have been observed and hypothesised. Among possible aetiologies, accidental needle penetration during local infiltration, direct trauma to the pleura during surgery, thermal damage from diathermy, rupture of pre-existing bleb, or high anaesthetic ventilation pressure have been observed.

Barotrauma during implant insertion has also been proposed as another mechanism which was supported by a South African case series;<sup>[3]</sup> they drained the air in the subpectoral pocket before implant insertion and noted that patients did not develop pneumothorax in post-operative period in contrast to their previous observations where three consecutive patients underwent breast augmentation without drainage of air and had developed asymptomatic pneumothoraces. The

author concludes that by advancing implant, particularly large implants through small incisions have a risk of pneumothorax due to local barotrauma. Fayman<sup>[4]</sup> suggested that air drainage should be introduced as a routine step in breast augmentation procedures in order to prevent the development of pneumothorax. Verma and Hodgkinson<sup>[5]</sup> propose that pneumothorax should be included in the informed consent prior to the surgery and the necessary equipment for treating should be kept ready.

Also, patients may be counselled to note down any chest discomfort or breathlessness after breast augmentation procedure and report to the nearest doctor. The doctors involved in the treatment of these cases or the emergency physicians if happened to see such cases shall consider pneumothorax as a possibility and evaluate them accordingly and intervene if required. Thus, patient empowerment helps to recognise such unusual complication much earlier and assist physicians to mitigate sufferings and consequences.

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