



CHIRURGIE THORACIQUE / THORACIC SURGERY

CARCINOMA OF THE PROSTATE MASQUERADING AS A GIANT ANTERIOR CHEST WALL TUMOUR - A CASE REPORT

K. ENTSUA-MENSAH^{1,2}, L.A. SEREBOE¹, M. M. TETTEY¹, M. TAMATEY¹, E. ANITEYE³, D. KOTEI³ AND L. EDUSEI⁴.

¹Division of Surgery, National Cardiothoracic Centre, Korle-Bu Teaching Hospital, P. O. Box KB 846, Korle-Bu, Accra, Ghana.

²Walter Sisulu Paediatric Cardiac Centre for Africa, Johannesburg, South Africa

³Division of Anaesthesia, National Cardiothoracic Centre, Korle-Bu Teaching Hospital, Korle-Bu, Accra, Ghana

⁴Department of Pathology, Korle-Bu Teaching Hospital, Accra, Ghana

Correspondence : Kow Entsua-Mensah,
National Cardiothoracic Centre,
P. O. Box KB 846, Korle-Bu,
Accra, Ghana.
Tel: +233208137043
+27791714866
Fax: +233302667196
E-mail: kentsuam@yahoo.com

Abstract

Carcinoma of the prostate is the commonest malignancy affecting men in West Africa. Though metastases to other sites are well known, chest wall metastases are uncommon.

An unusual case of undiagnosed symptom free prostatic carcinoma presenting as a giant anterior chest wall tumour is being reported. En bloc excision and chestwall reconstruction was performed, with commencement of hormonal therapy. The patient was however lost to a massive saddle pulmonary embolus on the 16th postoperative day.

This case highlights the importance of screening for other less likely causes when one is presented with a chest wall mass for evaluation.

Keywords

Carcinoma of prostate, metastasis, anterior chest wall mass.

Case report

A 63 year old male was seen from a neighbouring country with a painless giant anterior chest wall mass of two years duration. A wedge biopsy done prior to referral was reported as a cystic adenoid carcinoma, possibly as a secondary deposit from a cylindroma of the salivary glands. He was referred for excision and adjuvant therapy.

He was seen with no symptoms referable to the cardio respiratory or gastro-intestinal systems. There were no lower urinary tract obstructive or irritative symptoms and no bone pain. Examination revealed a 15 x 15cm firm mass with soft and cystic areas. A 5cm surgical scar was visible at the apex and there was fixity to the underlying sternum but not to the skin. There was no differential warmth. A solitary hard mobile

lymph node, 2.5 by 3cm was palpable in the left axilla. The mouth and salivary glands were normal. There was no cervical lymphadenopathy. Chest radiographs in postero-anterior and lateral views showed a soft tissue mass without calcification that had eroded the upper sternum. A chest CT scan showed a heterogeneous mass of the antero-superior mediastinum with destruction of both tables of the manubrium sterni and extension to the pre-sternal area. Figures 1 – 3. Deep cervical lymph nodes were enlarged.

Pre-operative blood work-up was normal. On-table urethral catheterisation was difficult. Bladder care was therefore achieved via suprapubic catheterisation.

Findings at surgery were a 15 x 15 cm heterogeneous mass, eroding the upper half of the sternum. En bloc excision of the tumour and sternum with 3cm of adjacent costal cartilages bilaterally was performed. Closure of the defect and chestwall reconstruction was achieved with marlex mesh and pectoralis major myocutaneous flap. Intercostal drains were placed bilaterally.

He required mechanical ventilation until postoperative day 4. He was extubated but had to be re-intubated 10 hours later on account of incipient respiratory failure. A tracheostomy was required to facilitate weaning from mechanical ventilation on postoperative day 7. He was anticoagulated with fraxiparine 0.6mls once daily from the day of operation. He was eventually discharged to the regular ward on postoperative day 10.

Histological examination of the surgical specimen revealed prostatic adenocarcinoma. Digital rectal examination revealed a firm grade II enlargement of the prostate gland. Prostatic specific antigen assay performed was 78.11ng/ml (0-4ng/ml). Histological examination of a trans-rectal biopsy showed features identical with that of the chest wall mass. Hormonal therapy with goserelin 10.8mg was commenced.

Despite the prophylactic anti-coagulation, he died on the 16th post operative day from pulmonary embolism. Post mortem examination revealed a massive saddle embolus and widespread dissemination of the carcinoma with tumour nodules infiltrating the bladder and the surrounding soft tissues of the pelvis. There were similar metastatic nodules in the mediastinum and adjoining ribs. Histological examination of these metastatic nodules confirmed a common prostatic origin. The salivary glands were normal bilaterally.

Discussion

Primary and secondary neoplasms of the chest wall are rare, accounting for 1% of all neoplasia. There are varying aetiologies for these tumours, benign accounting for about 50%. Malignant primaries include Ewings sarcoma, osteosarcoma and chondrosarcoma. By far most chest wall tumours are primaries. Metastatic chest wall tumours account for 16% of all chest wall tumours.[1]

Prostatic carcinoma is the commonest genital malignancy affecting men in West Africa and elsewhere.[2] Chest wall metastases are extremely uncommon.[3][4] Chestwall metastases are even more uncommon in symptom free undiagnosed disease, as was the case in our patient.[4] Usual sites for metastatic disease include bone, lymph nodes, lung, bladder, liver and adrenal glands. [5] Metastases to almost every organ in the body have been reported. [4] There is evidence to show that bone, lung, and liver are the most frequent sites of distant prostate cancer metastases, and that retrograde venous spread to the spine is the mechanism. This process occurs early in the metastatic process. [6]

Routine screening for other possible “rare causes” must be sought at the pre-operative or neo-adjuvant work up for all men presenting with chest wall masses.

The patient’s diagnosis was missed because a digital rectal examination and a PSA assay were overlooked in the pre-operative evaluation. Surgeons must be wary of using a referring doctor’s report as the basis for therapy. Independent re-evaluation must be the rule. The judgment of our team was swayed in favour of this diagnosis as a possibility even though there was no clinical evidence of existing salivary gland pathology that had gone far afield.

Conclusion

A case of undiagnosed symptom free prostatic carcinoma masquerading as a giant anterior chestwall tumour is being reported. Though rare, such uncommon causes of chestwall tumours ought to be borne in mind during the evaluation of a chest wall mass in all men.

Rectal examination and PSA assay are mandatory in every male presenting for evaluation of a chestwall mass.

References

1. Friemann J., Roessner A., Muller K-M. Primary and secondary tumors of the chest wall in the view of pathology. *Langenbecks Archiv fur Chirurgie* 1987;372:757-767
2. Mandong B.M., Madaki A.K.J., Mannaseh A.N. Malignant Diseases In Jos: A Follow Up. *Annals of African Medicine* 2003;2(2):49 – 53
3. Wu J.J., Huang D.B., Pang K.R., Tying S.K. Cutaneous metastasis to the chest wall from prostate cancer. *International Journal of Dermatology* 2006, August; 45(8):946-948
4. Roxburgh C.S.D., Swami S.K. Prostate Cancer Presenting As A Chest Wall Tumour. *The Internet Journal of Urology* 2007;(4)2
5. Saitoh H., Hida M., Shimbo T. Metastatic patterns of Prostate Cancer. Correlation between sites and number of organs involved. *Cancer* 1984;54:3078-3084
6. Bubendorf L., Schopfer A., Wagner U., Sauter G., Moch H., Willi N., Gasser TC. Metastatic patterns of prostate cancer: an autopsy study of 1,589 patients. *Hum Pathol* 2000, May;31(5):578-83



Fig 1. Chest X ray in PA view showing tumour in upper chest



Fig 2. Axial chest CT scan showing tumour anterior and posterior to the sternum



Fig 3 Saggittal CT reconstruction showing destruction of both sternal tables by tumour deposits