Sweeper’s Scapula


Abstract  
Occupation has some impact on the musculoskeletal system. As we know, over use of a particular group of muscles or repetition of a particular movement will produce traction and associated changes at the origin and insertion sites of the muscles. 
Here we present a case report of a professional sweeper, whose investigations incidentally turned our attention towards the scalloped lateral borders of his shoulder blade bilaterally, at the site of origin of teres minor and teres major muscles.

Introduction  
The scapulae are flat bones present on either side of the vertebral column on the posterior aspect of the thoracic cavity. Teres minor and Teres major are the two muscles, which arises from the lateral border of the dorsal surface of scapula (Fig. 1). Teres minor is a narrow elongate muscle arising from upper 2/3 of a flattened strip on the lateral part of the dorsal surface of scapula and gets inserted into the lowest of the 3 facets on the greater tubercle of humerus. It rotates the humeral head laterally, along with infraspinatus and posterior fibres of deltoid.  
Teres major is a thick flat muscle arising from the oval area on the dorsal surface of the inferior angle of scapula. It travels upwards and laterally to get inserted into the medial lip of the intertubercular sulcus of humerus. The teres major draws the humerus medially and backwards and rotates it internally.

Case Report  
A 68 year old male who worked in a Government Organisation as Class IV employee, (his duties included sweeping all round the compound) for the past 40 years presented to our hospital with complaints of respiratory problems. A plain chest X-ray was taken which incidentally revealed scalloping of lateral border of scapulae bilaterally (Fig. 2). While enquiring about his occupation, he was a conscientious sweeper for the past 40 years, who had the habit of sweeping with both hands. Then he was made to sweep in a room with a broomstick in his hand as he does, it was observed. The teres minor and major were seen to be more prominent during the act of sweeping. So, further Ten more professional sweepers were found, who are less active and less experienced (in service) than the former patient. Plain chest X-ray was taken for all, which showed mild scalloping of the lateral borders of scapula bilaterally. Incidentally, those who play golf and hockey over the years, show similar changes.

Discussion  
The sweeping action is composed of two movements in the shoulder joints (i.e.) medial rotation and lateral rotation. While performing the action bilaterally, the teres minor and teres major tends to pull the lateral border of the scapula from where it arises. Since bone is a dynamic material which can change its morphology, size and robustness in response to prolonged activity.¹

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Greater activity and mechanical stress causes the bone to become remodel, with ridges and depressions caused by muscle action. In our case, repeated action of the muscle might be the reason for the bony scalloping.

This incidental observation leads us to the aetiology of this anatomical change in the scapulae. Since it is not described in the textbooks or literature, dealing with osteology and anatomy, we thought ‘Sweeper’s scapula’ may find a place in the literature for the benefit of medical profession. Of course, it has got no pathological significance; it may help forensic medicine in determining the occupation either professional (or) recreational sporting.

**Conclusion**

It would be interesting to gather more evidence in favour of anatomical changes occurring in the skeletal system due to occupation and recreational sport. Further detailed study would be needed in those who play golf, hockey regularly and others who are engaged in sweeping. Sweeping in the developed world may be vanishing from the scene because of mechanization. Probably over a period of time, the above noted changes may be left with golfers and hockey players.

**References**