Vertebrectomy

Who Needs It?

This operation is performed either when there is abnormality affecting the bone of the vertebral body, such as a tumour deposit, or when there is pathology affecting the disc above and below one bone and the disc material is protruding behind the body of the intervening vertebra.

The Operation

This is performed in exactly the same manner as an anterior cervical discectomy and fusion, through a small incision in the front of the neck. The vertebral body is removed to reveal the ligament below which separates it from the dura, the membrane lining the spinal canal. This ligament is usually also removed and the spine thereby decompressed. The body of the vertebra is replaced either with a bone graft from the iliac crest (hip) or using a metal cage containing the bone fragments which were removed and act as a graft. A metal plate is often used to reinforce either type of fixation.

Results of Surgery

This is not a treatment for tumours, merely for the symptoms they cause, in this case spinal cord compression or pain from vertebral collapse. The aim of surgery is to decompress the spine and obtain a solid bony fusion between the bones above and below the affected segment. The fusion rate is generally high (>80 %) but the patient usually requires a collar until this has occurred which may take 6 -12 weeks. This is confirmed with x-rays taken at the post-operative visits.

The hospital stay is typically 2 - 5 days and most patients are mobile and active on leaving hospital, but must avoid lifting and excessive bending until the spine has healed.

What are the risks?

The biggest worry is trauma to the spinal cord. This is said to occur in one percent of operations per level being fused (i.e. a three level fusion may carry a risk of 3%). This may cause paralysis or weakness which may improve in time, but may not.

The nerve roots behind the disc may potentially be damaged by the surgery or bleeding causing a build up of pressure. The structures in the neck including the trachea, oesophagus and blood vessels are at risk. There is a small nerve, the recurrent laryngeal nerve, which runs in the groove between the trachea and oesophagus, which if damaged, may lead to vocal cord paralysis on the affected side. This may require treatment from a throat specialist or may resolve spontaneously.

The late risks include the possibility that the fusion will not heal, leading to a return of the pain the patient previously suffered, or that the bone graft will collapse, still fusing, but in a flexed posture. This latter is often prevented by inserting a metal plate over the bone graft.