

Balloon Kyphoplasty for Vertebral Compression Fractures (VCF): A Retrospective Analysis

M.Sinha, F.Neirami, V.Reddy

Objectives

Balloon Kyphoplasty is a minimally invasive procedure to reduce pain, restore anatomy, stabilise fractured vertebrae and prevent further deformity of the spine. This is a retrospective analysis of a series of cases, recording the safety and efficacy of patients undergoing Balloon Kyphoplasty.

Methods

Nine patients underwent Balloon Kyphoplasty as day case procedure under conscious sedation in the year 2015, at the Kings College Hospital. Inclusion criteria were VCF with the reduction in body height up to 70% and retained stability of the posterior wall of vertebrae. Collected data included aetiology, pain intensity, the degree of mobility (sitting to standing, duration of standing, walking and laying down) and the vertebrae affected. Post-procedure pain score and complications including neurological deficit were part of the data collected. Patients were reviewed at four weeks following the procedure.

Technique

Balloon Kyphoplasty was performed under conscious sedation and local anaesthetic in a day care setting. The Transpedicular approach was used to access the vertebral body under X-ray guidance. With the help of hand drill a channel was created in the fractured vertebrae. A balloon-like device (inflatable bone tamp) was inserted through a channel and was positioned in the vertebral body. Following the confirmation of the balloon position with the aid of X-ray, the balloon was then inflated slowly until the near normal height of the vertebral body was restored or it attained its maximum capacity.

A cavity was thus created inside the vertebral body when the bone tamp was withdrawn. Cement was injected slowly at low pressure into the cavity, potentially reducing the risk of cement leakage. Cement increases the vertebral strength and stabilises it with intended benefit of pain relief.

Results

We observed almost immediate pain relief following the procedure on the same day. In three patients (33%) pain subsided completely, while 67% had significant pain relief (>50%) with the overall improvement in their mobility. The subsequent assessment confirmed that six patients had low back pain originating from either sacroiliac or lower lumbar facet joints which were treated as a separate entity. Out of the nine patients, two patients were inpatients before the procedure and they were discharged home on the same day as a result of excellent pain relief. No complications were reported.

Conclusion

From our retrospective analysis, we conclude that Balloon Kyphoplasty is a safe procedure and can provide excellent pain relief, reduce disability and improve the quality of life of patients with vertebral fractures. There was also a reduction in the length of hospital stay in patients who were admitted to hospital because of pain and disability. As this procedure can be performed as a day case procedure, this can be cost effective.

References

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Baseline data

