

Case study: Use of Vitoss BA and VariAx Clavicle Locking Plate System for a Clavicle Nonunion

A review by Kenneth Koval, MD

Patient history:

Patient is a 65 year old female who sustained multiple injuries in a motor vehicle accident, including a tibial plateau fracture, cervical spine injury and a displaced distracted right clavicle fracture (Figure 1). Treatment of the cervical spine injury was prioritized and required a cervical orthosis, which could not be removed. Due to the cervical orthosis her clavicle fracture was treated non-operatively with a sling.

Assessment:

Patient returned at 5 months post injury with continued pain, tenderness, and deformity around her right clavicle. Radiographs demonstrated a clavicle nonunion (Figure 2). It was determined that she was a candidate for an open reduction and internal fixation.

Procedure/treatment:

Surgery was performed with an incision directly over the clavicle with a takedown of the nonunion, mobilization of the fragments, and stabilization with the VariAx Clavicle Locking Plate System Superior Lateral Plate. Vitoss BA, hydrated with blood from the surgical site, was used to graft the nonunion. (Figure 3A and 3B)



Figure 1: 65 year old woma s/p MVA. initial radiographs



Figure 2: 5 months after injury

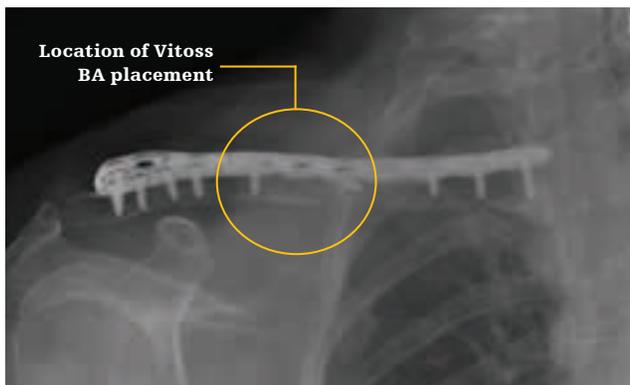


Figure 3A: Surgical treatment with Stryker plate and Vitoss BA

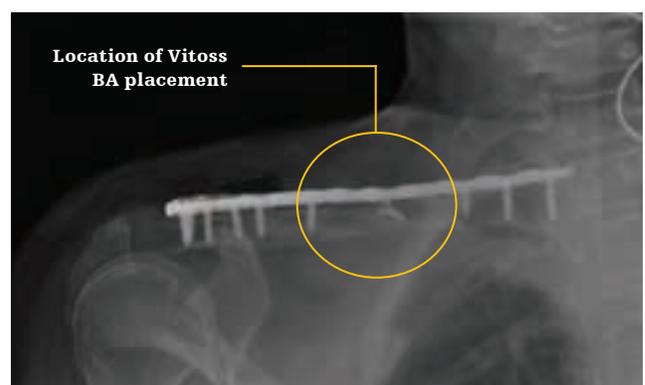


Figure 3B:

Post-operative clinical outcome:

Post-operatively the arm was placed in a sling and the patient was allowed to do pendulum exercises and passive assisted range of shoulder motion. At six weeks, the patient was allowed active shoulder motion and at 12 weeks resistive exercises.

Follow-up:

Patient was seen for 3 month (Figure 4A and 4B) and 6 month follow-up (Figure 5A and 5B) and did well clinically. The clavicle united uneventfully with the patient regaining full painless shoulder motion.

Conclusion:

This case illustrates a safe and effective use of the VariAx Clavicle Locking Plate System in combination with Vitoss BA, as a substitute for autologous bone graft. The use of Vitoss BA has shown to be a suitable 3-dimensional matrix to allow bone growth through the graft.

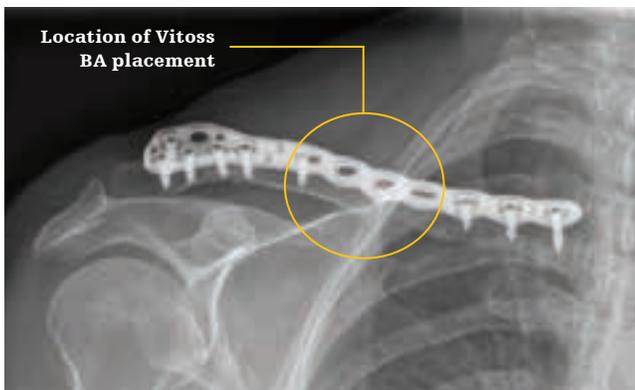


Figure 4A: 3 months after surgery

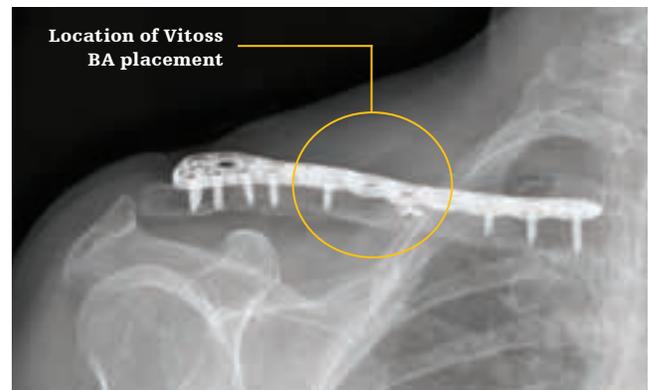


Figure 4B:

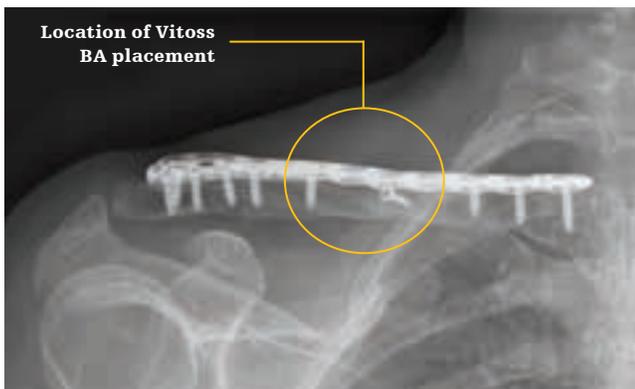


Figure 5A: 6 months post-op

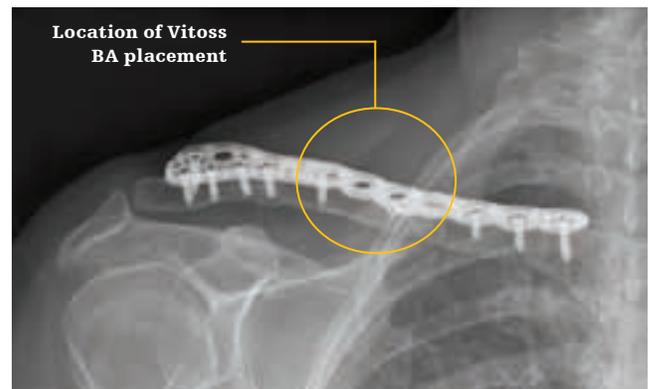


Figure 5B:

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