

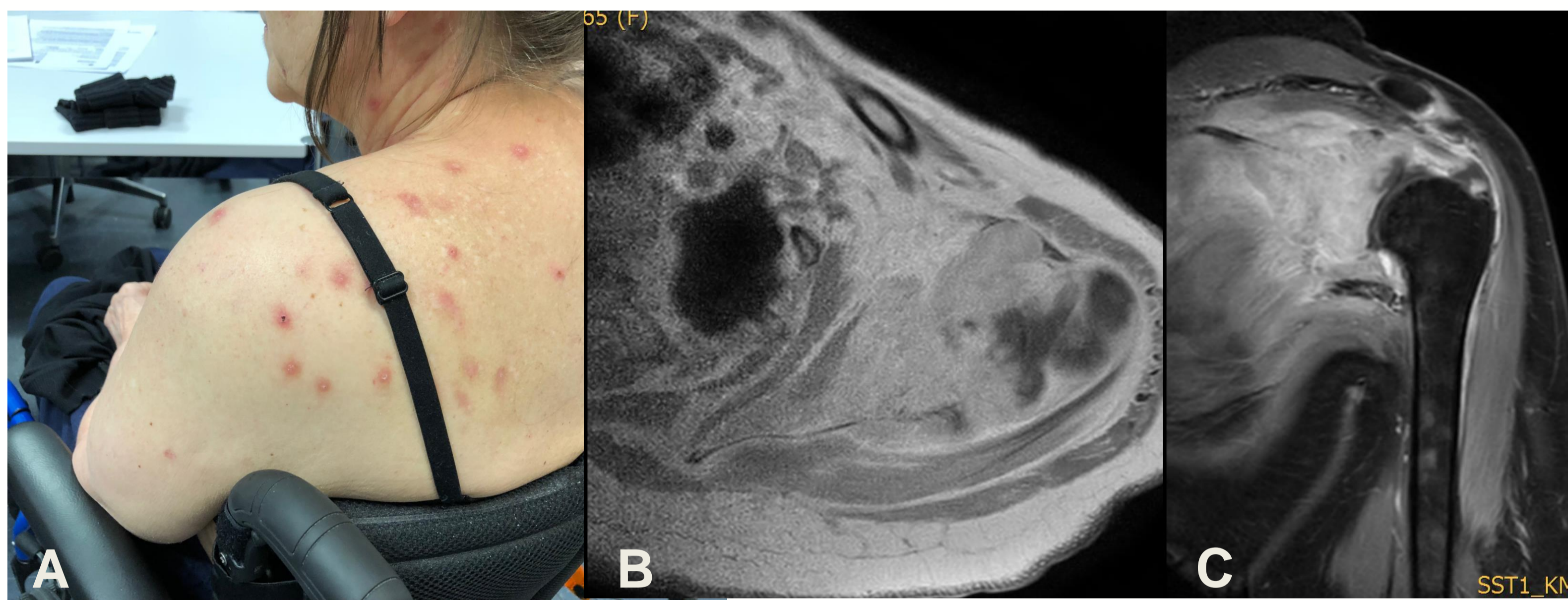
# LOW DEMAND HANGING BRIDGE RECONSTRUCTION AFTER TIKHOFF-LINBERG SHOULDER RESECTION

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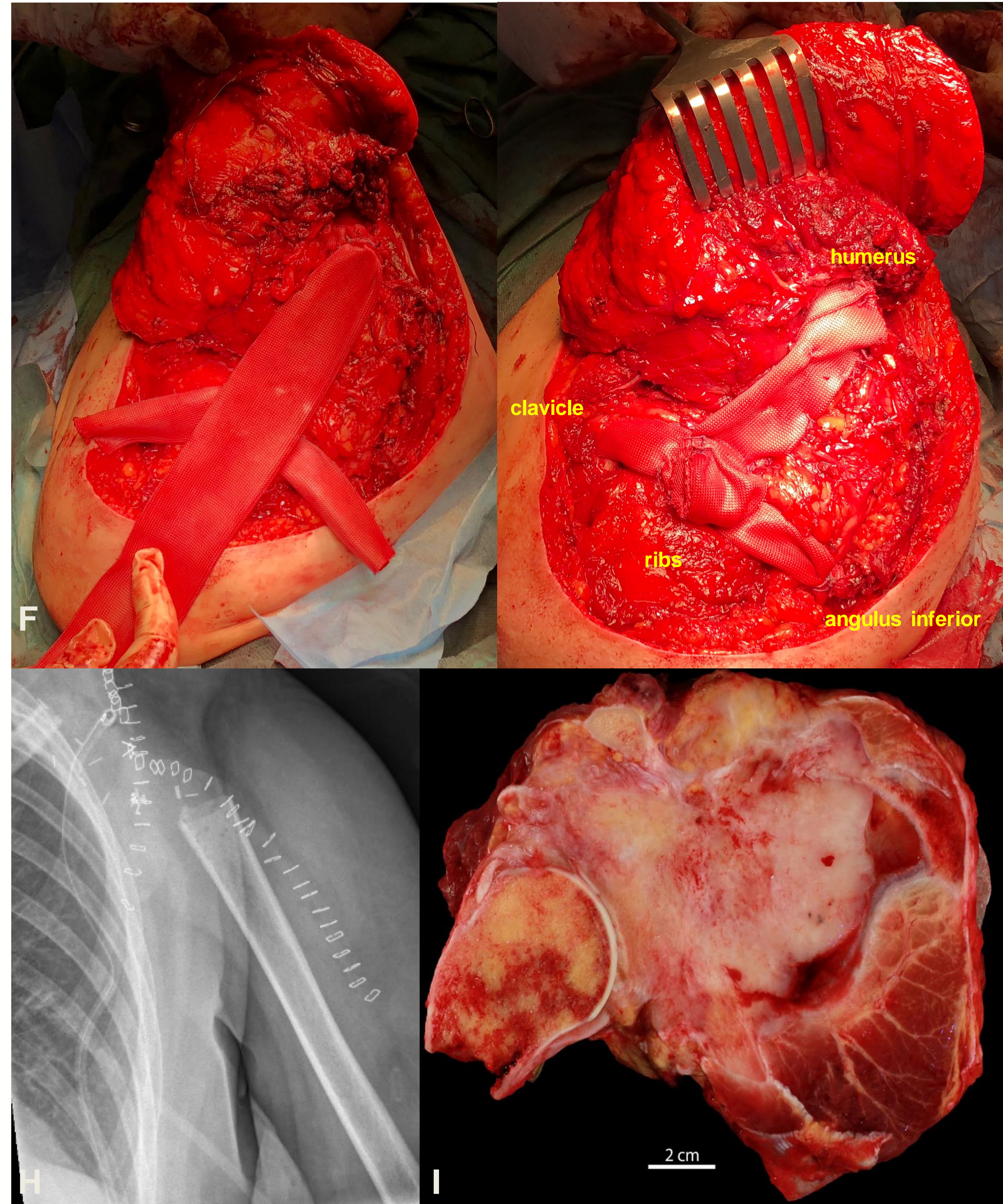
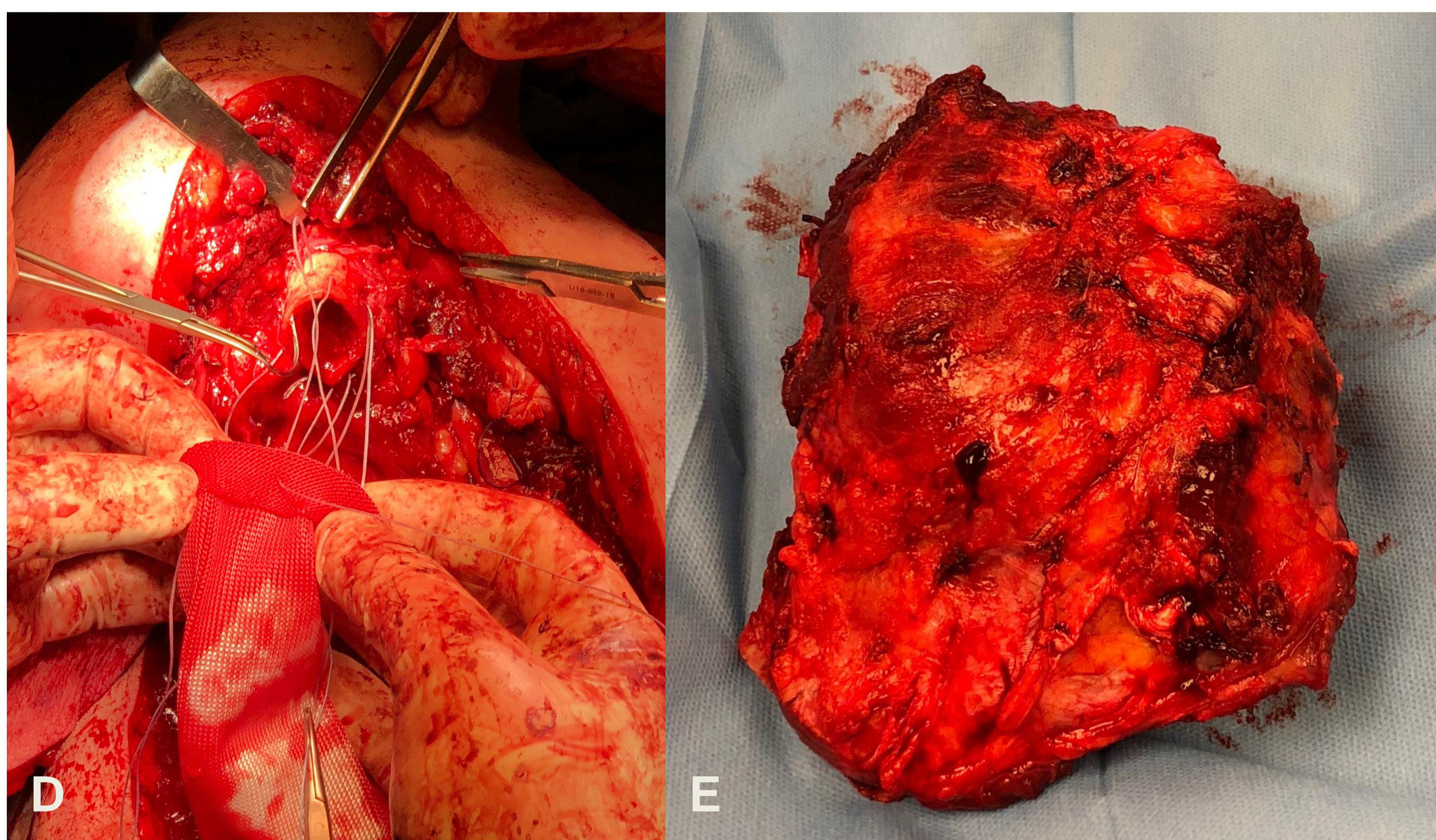
## INTRODUCTION

Extra-articular scapulo-humeral (or, Tikhoff-Linberg) resection is rarely indicated, and is usually associated with advanced tumor disease around the shoulder. This surgical procedure usually does not allow for high functional expectations because the shoulder joint is completely resected. If the axillary nerve or the deltoid origin, or both, are sacrificed, the shoulder has no active function anymore and the main focus is directed towards avoiding traction of the arm on the plexus, which causes severe pain. Several different methods of fixation of the humerus exist, including clavicular turn-down or spacer prosthesis to fix at the acromion etc. Herein, we describe the hanging bridge method to fix the arm secured to the chest at the desired position.



## PATIENT & METHODS

A 66 year old patient was diagnosed with an undifferentiated pleomorphic sarcoma of the scapula, proximal humerus, involved the entire joint as well as the axillary nerve. She also had a disseminated encephalitis and a longstanding colitis ulcerosa, reason why she was not able to undergo preoperative chemotherapy (A-C). Because of severe pain and the localized disease status, surgery was indicated. Using an utilitarian incision exposing the shoulder joint both from the front and the back, scapula-humeral resection was performed, with sacrifice of the axillary nerve (D-E).



## RESULTS

After complete exposure, a first Trevira tube was put over the remainder of the humerus stump in terms of a “Zipfelmütze” (F-I). A second tube was fixed to the lateral end of the clavicle, and passed around two ribs to fix the other end of the tube at the inferior angle of the scapula, to provide the hanging bridge. Then, the tip of the Zipfelmütze is then passed around the hanging bridge, to adjust the length and to achieve a stable construct. Soft tissue reconstruction then enhances the stability through scar tissue formation.

## CONCLUSION

The hanging bridge reconstruction provides a stable construct of the shoulder after Tikhoff-Linberg resection with no traction pain. Obviously, there is no shoulder function, but normal elbow and hand function can be expected.

## HIGHLIGHTS:

If the axillary nerve is involved by the tumor, reconstruction is conservative, and can be solved with the low-demand hanging-bridge method.