

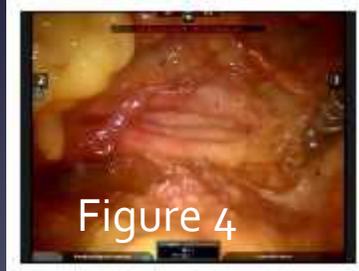
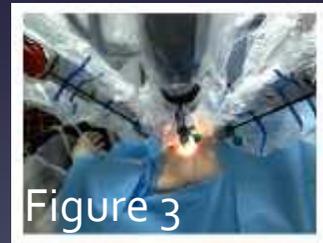
Novel Axillary Approach for Brachial Plexus in Robotic Surgery: A Cadaveric Experiment

Cihangir TETIK MD

Orthopaedics and Traumatology, Hand and Microsurgery, Acibadem Maslak Hospital, Istanbul, Turkey



Objectives: Brachial plexus surgery using the “da Vinci” surgical robot is a new procedure. Although the supraclavicular approach is a well known described and used procedure for robotic surgery, axillary approach was unknown for brachial plexus surgery. A cadaveric study was planned to evaluate the robotic axillary approach for brachial plexus surgery.



Methods and Techniques: A human cadaver was subjected to this experiment in Paris University Ecole Européenne de Chirurgie (EEC) anatomy laboratory and da Vinci robot system was used. The cadaver was placed supine on the operating table. The left arm was tucked along the side and the right arm was placed in a semiflexed position extending toward the anesthesia location near the head, supported by foam and blankets (Figure 1). A 6cm long incision was made at the right axillar line, lateral to the edge of the pectoralis major muscle (PM) (figure2). Blunt dissection was performed to create the working space area. A self retaining Chung retractor was placed into the incision to elevate the PM flap. The robot was docked with camera and to arms (figure 3). A 10 mm 0 degree scope, Maryland forceps and a curved scissors were introduced through the incision without CO₂ insufflation. First rib was found; C₇, C₈-T₁ and lower truncus were identified. The subclavian artery was seen in front of the truncus and was positioned to the posterior of the working space. Anterior scalene muscle attachment and subclavian vein were seen anterior to the muscle. Subclavian artery was dissected from the plexus and truncus of the lower plexus was exposed with blunt dissection (figure 4).

Conclusion: In our opinion, robotic surgery possibly will be used routinely in the future for brachial plexus surgery and particularly for lower part of the brachial plexus .