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TRIPORTAL ANATOMICAL PULMONARY RESECTION WITH A NEW ROBOTIC PLATFORM: EARLY EXPERIENCE

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OBJECTIVES

The purpose of this study is to compare the first experiences in typical lung resections carried out with the robotic Versius Surgical System versus the thoracoscopic procedure.

METHODS

Commonly using the uniportal or biportal VATS technique we were puzzled to practice pulmonary lobectomy with 4-5 robotic accesses. For this reason, we tested a triportal RATS technique in the wet-lab, then we transferred it to clinical practice. Thoracic accesses: 3.5 cm anterior utility incision in 6th intercostal space hosting one operative robotic arm plus instruments managed by assistant; 12mm camera port in 8th intercostal space on posterior axillary line; 5mm port dedicated to the second robotic arm in the 6th space posterior to scapula tips. Data of the first consecutive patients treated with RATS were collected prospectively and compared with the first corresponding interventions carried out with VATS by the same surgeons.

RESULTS

From November 2021 to January 2022, we performed 8 typical lung resections with triportal RATS using the Versius System (6 lobectomy, 2 segmentectomy). Corresponding VATS patients were reviewed. Patients in both groups were similar for age, sex, smoking addiction and comorbidities but Versius patients had higher preoperative clinical stage. The average operative time was 316±71 and 236±39 minutes for Versius and VATS group, respectively. No operative death nor reoperation occurred. One RATS case required conversion to open surgery to manage little bronchial lesion. Two patients experienced Grade II morbidities in both groups. Chest tube and length of stay was shorter in Versius patients.

CONCLUSIONS

With our technique, the Versius robotic arm is free to move in the utility incision allowing the assistant to manage staplers, extract lymph-node samples and help mobilize the parenchyma. Our experience suggests that typical pulmonary resection with Versius system is possible, limiting the thoracic access to a classical triportal technique

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