

## AB014. Semi-supine percutaneous nephrolithotomy: clinical application and technical essentials

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**Abstract:** Percutaneous nephrolithotomy (PCNL) is one of the main methods of minimally invasive treatment of upper urinary tract calculi. PCNL has been performed in prone position since beginning. However, there are many defects of prone position, such as chest and abdominal compression, against anesthesia monitoring and so on. Since 2002, our center began to improve the position of PCNL and first to put forward the semi-supine position. In 2007, we firstly began to develop and carry out the semi-supine combined lithotomy position, which was proved to be safe and effective. In this position, both antegrade and retrograde approaches could be well performed. The operation time was shorter and the intra-pelvic pressure

was lower compared to prone position. In the management of complex cases, such as staghorn calculi, multiple calculi, and bilateral upper tract calculi, semi-supine combined lithotomy position could reach a higher stone-free rate (SFR) with minimal complications. In 2010, based on the semi-supine combined lithotomy position, we proposed the overall minimally invasive treatment strategy of PCNL, which included “combination, conversion, connection, control and see”. Under the guidance of this strategy, we managed over 2,000 cases of complicated upper tract calculi and reached remarkable outcomes. On the other hand, new learners could have many doubts when apply the semi-supine position, such as the placement of patient, the depth of percutaneous expansion and so on. In this session, we will introduce the application of semi-supine PCNL in our center and share our experience of technical essentials.

**Keywords:** Percutaneous nephrolithotomy (PCNL); upper urinary tract; minimally invasive treatment; intra-pelvic pressure

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