PHRENIC NERVE PALSY IN HEART TRANSPLANTED PATIENT AS A COMPLICATION OF SUPRACLAVICULAR NERVE BLOCK

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Introduction

Regional anesthesia has an expanding role in upper extremity surgery.

Despite the popularity of nerve blocks, the anesthesiologist must not forget the complications that can be associated with regional anesthesia.

Case report

A 59-year-old man who had undergone a heart transplantation 20 years ago underwent a full skin transplantation from right arm to right hand.

An ultrasound guided right-sided supraclavicular brachial plexus block (SCBPB) was performed using 25 ml Ropivacaine 5 mg/ml without any initial problems noted.

After 20 minutes the patient experienced acute-onset dyspnea, chest discomfort, and anxiety. Physical examination demonstrated reduced breath sounds in both hemi-thoraces. Ultrasound examination documented bilateral elevation of diaphragm with no visible diaphragmatic movement consistent with bilateral phrenic nerve palsy.

The patient maintained adequate abdominal breathing effort. Observations: SO₂: 95%, HF 115 bpm, BP 120/65 mmHg.

The patient was admitted to ICU for further observation.

6 hours later he was sent back to the ward. No further signs of respiratory compromise were observed.

Discussion

During a heart transplantation the left phrenic nerve is routinely dissected when the pericardium is removed.

Blockade of the phrenic nerve during ultrasound-guided SCBPB is observed in 0-34% cases (1-3). The relatively high incidence of phrenic nerve block is observed even when the block is executed accurately (3).

A more accurate history taking and a closer look at the patient's chest x-ray could have prevented this complication.

Patient's chest x-ray 6 months before operation

Normal left phrenic nerve attached to the Pericardium
(© Sobotta Anatomie des Menschen 20th ed)

Conclusion

This case highlights phrenic nerve palsy as a serious complication of SCBPB. To our knowledge such an event in heart transplant patient has not been previously reported in the literature.

References

- 1 Renes et al, Reg Anesth Pain Med 2009
- 2 Perlas et al, Reg Anesth Pain Med 2009
- 3 Petrar et al, Reg Anesth Pain Med 2015