Epidural Catheter Breakage During Insertion; A Cause Of Failed Epidural?

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BACKGROUND:

- Epidural catheter placement is a commonly performed procedure for providing anaesthesia or analgesia.
- Epidural catheter breakage is a rare but worrisome complication.
- Breakage is more often encountered during catheter removal than during its insertion.
- Recommendations for the prevention of the complication do exist.
- Interestingly, recommendations regarding whether or not a new epidural catheter should be placed are lacking.

CASE REPORT:

- ◆ Epidural catheter placement was required for labor analgesia in a 30-year-old primigravid parturient, 1.73cm height and 86kg weight.
- ◆ Loss of resistance with air technique was used at the L3-L4 intravertebral space in the sitting position.
- ◆ The epidural space was identified at 4cm from the skin with a 18-gauge Tuohy needle.
- ◆ The catheter was advanced up to 9cm; at this point resistance was encountered. Catheter removal through the needle was performed, when a tear of about 3mm x 0.4mm at the catheter's radio-opaque tip was noticed. The Tuohy needle was removed and the procedure stopped.
- ◆ Surgeon and patient were informed.
- ◆ Neurological examination was normal. After labour, X-rays of lumbar spine in antero-posterior and lateral position were unable to detect the retained catheter fragment. The neurosurgeon suggested a CT and MRI scan, but the fragment was again not visualized.
- ◆ The patient remained asymptomatic and was informed to report any adverse symptoms in the future.

DISCUSSION:

- In order to prevent catheter breakage the epidural set must be inspected before placement for manufacturing defects.

During placement:

- When resistance is encountered, excessive force should be avoided.
- The catheter should be withdrawn along with the needle.
- The maximum length in the epidural space should be 5cm.

When the catheter breaks:

- Imaging of any kind is not helpful in locating the catheter.
- It is safe to leave the fragments in place as long as there are no neurological symptoms.
- Literature review suggests that new epidural catheter placement at another intravertebral space has been uneventfully performed in awake, asymptomatic patients.

LEARNING POINT:

- Meticulous epidural access technique is necessary for successful catheter placement.
- In case of accidental breakage the patient should be informed.
- If asymptomatic it is safe to leave the fragment in place.
- A new catheter can be reinserted at another intervertebral space in asymptomatic patients after patients' informed consent.
- Surveillance for neurological symptoms is advised.

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