UNUSUAL RESPONSE TO EXTRADURAL ANALGESIA IN THE PRESENCE OF AN INTRADURAL SPINAL TUMOUR

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SUMMARY

A patient is presented in whom indications of the presence of an intradural, extramedullary tumour became apparent during the induction of an extradural block. It is suggested that a combination of signs should arouse suspicions of such a tumour close to the puncture site. Pain within an area covered by an extradural block does not indicate necessarily a supraspinal cause for the pain.

The normal pattern of onset of, and reaction to, extradural analgesia is well known, while the frequency of abnormal neurological symptoms seems to be small and their significance largely unknown. We describe a tetralogy that suggested the presence of spinal tumour.

CASE HISTORY

A 55-yr-old man was admitted to hospital because of pain in the left loin. His past medical history was dominated by symptoms related to his genito-urinary system and between 1956 and 1976 he had been admitted to hospital on 10 occasions because of urolithiasis. On account of renal calculi, he underwent resection of the left kidney in 1963. The operation was performed through an oblique incision. Repeated urograms had subsequently shown calculi remaining in both renal pelvices. Since 1974 he had experienced diffuse pain in the perineal and perianal areas which progressively impaired his ability to sit and to perform his work. After urological consultation he was shown to have prostatitis and a transurethral resection of the prostate was performed. However, this did not alleviate his symptoms.

In January 1977 he was admitted again to hospital because of the increasing severity of intermittent pain in his left loin. There was no haematuria, and a renal cause of the pain seemed unlikely. Therefore, the patient was referred to the Department of Neurology. He stated that the pain, which occurred chiefly at night, was intense and was localized to within the operation scar, but had begun recently to radiate into the left groin. The pain was not made worse by coughing or sneezing and there was no back pain. There had been ventrolateral numbness in the left thigh since the operation 14 yr previously.

On examination the patient was mentally normal. There was slight lumbar scoliosis, and extension and rotation of the back to the left caused pain in the scar, as did palpation of the scar. Slight hyperaesthesia and hypalgesia were found in the left thigh, but did not correspond to any dermatomal or peripheral nerve area. The neurological condition was normal otherwise.

Trapping of a peripheral nerve seemed the most likely cause of the patient's symptoms, although disease of the spine could not be excluded. The local infiltration of bupivacaine into the scar resulted in total pain relief for 1 h. The patient was referred to the anaesthetic department for diagnostic and therapeutic nerve blocks. A left subcostal block produced only about 50% pain relief. Additional blocks of the 10th and 11th intercostal nerves did not induce any further decrease in pain, neither did subsequent left splanchnic nerve block. On the next day a differential extradural block was performed. The extradural space was entered in the T12-L1 interspace using the lateral approach. However, while attempting to introduce a catheter an unusual soft resistance was met and the catheter could not be positioned satisfactorily. The procedure was repeated in the L1-L2 interspace at which the catheter could be introduced to 3 cm without difficulty. During the injection of lignocaine 0.5% the patient experienced severe pain in the painful area of the scar. The subsequent injection of lignocaine 1% resulted also in immediate pain. Twenty minutes later, although widespread cutaneous analgesia was present only minimal relief of the pain in the scar had been produced. The injection of lignocaine 2% caused pain...
also. However, a decrease in the intensity of the pain was found later, with widespread cutaneous analgesia and profound motor block. It was concluded that no further blocks should be performed until a space-occupying intraspinal lesion had been excluded.

Subsequent myelography revealed an intradural, extramedullary tumour with a rostral border at T12 and almost complete spinal block (fig. 1). The protein content of the cerebrospinal fluid was 2.5 g litre⁻¹. The patient underwent laminectomy at T11–T12 and a neuroma 15 mm in diameter was removed from the dorsal root of the 12th left thoracic nerve. After operation the pain in the left loin and perineum was absent but at subsequent examinations the perineal pain had recurred while the numbness in the left thigh persisted.

**DISCUSSION**

In this patient, the clinical features had been dominated by urolithiasis for 20 yr. On admission to hospital there was radiological evidence of renal calculi, and it seemed reasonable to assume that his symptoms were caused by urolithiasis, although trapping of the left subcostal or an intercostal nerve in the scar was a possible explanation. However, subsequent investigations revealed an intradural neuroma of the spinal nerve innervating the area around the scar. This rare coincidence of various pathological conditions causing pain in the same area of the body stresses the importance of a constantly open mind and careful and thorough examination, at each admission, of patients with long-standing pain problems. The duration of symptoms attributable to the neuroma is uncertain.

Local infiltration of bupivacaine completely relieved the patient's pain temporarily, indicating a peripheral cause of the symptoms. However, relief was of shorter duration than would be expected. Whether the relief was related only to spontaneous variation of the intensity of the pain, to centripedal spread of the local anaesthetic agent or to the mechanisms discussed by Morgan and Robson (1972), must be left open to discussion.

The results of splanchnic and subcostal and intercostal nerve blocks excluded urolithiasis or a neuroma in the scar from the diagnosis. However, the partial relief after the subcostal block caused confusion. We consider that only complete pain relief after nerve blocks gives correct information about the pathways of pain.

Following a differential extradural block (Winnie and Collins, 1968) pain persisted in spite of cutaneous analgesia. Therefore, it is suggested that nerves in intradural neurogenic tumours may remain significantly unblocked during extradural as opposed to spinal analgesia, and that pain persisting during an extradural block does not necessarily indicate a supraspinal cause of pain.

Resistance to the introduction of an extradural catheter, severe paraesthesiae in one spinal nerve during slow injection of the local anaesthetic drug, a deficient block of the same spinal nerve in the presence of an otherwise complete block and signs of a low-compliance extradural space in the form of widespread cutaneous analgesia in relation to the dose of local anaesthetic given should suggest a diagnosis of an intradural neurogenic tumour.

**REFERENCES**


**REACTION INHABITUELLE A L'ANALGESIE EXTRADURALE EN PRESENCE D'UNE TUMEUR INTRADURALE DE LA COLONNE VERTEBRALE**

**RESUME**

On présente dans cet article les cas d'un malade sur lequel on a découvert des signes de la présence d'une tumeur intradurale extramedullaire pendant l'induction d'un blocage extradural. On suggère que la combinaison de certains signes devrait permettre de soupçonner la présence d'une tumeur de ce genre à proximité du site de la ponction. Toute douleur dans la zone couverte par le blocage extradural n'indique pas nécessairement une cause supraspinale de cette douleur.
ZUSAMMENFASSUNG
Gezeigt wird ein Patient mit Anzeichen eines intraduralen, ausserhalb der Medulla gelegenen Tumors; die Anzeichen wurden während der Einleitung einer extraduralen Blockierung deutlich. Man nimmt an, dass eine Kombination von Anzeichen den Verdacht auf einen solchen Tumor nahe der Einstichstelle wecken soll. Schmerzen innerhalb eines von der extraduralen Blockierung erfassten Gebietes weisen nicht unbedingt auf eine supraspinale Ursache dafür hin.

SUMARIO
Se presenta a un paciente en quien se manifestó la presencia de un tumor indadural extramedular durante la inducción de un bloqueo extradural. Se sugiere que una combinación de señales despertaría sospechas de un tumor tal en el lugar de punción. Un dolor en la zona correspondiente al bloqueo extradural no tiene necesariamente una causa supraespinal.