Correspondence

NEUROLOGIC COMPLICATIONS FOLLOWING INTRA-ARTERIAL CIS-PLATINUM CHEMOTHERAPY

To the Editor:

CIS-platinum chemotherapy can be complicated by a reversible peripheral sensory polyneuropathy when administered intravenously.[1] Recently intra-arterial perfusion of this agent has been used to achieve high concentrations in the tumour bed. The following case illustrates the neurological complications which may occur with this route of administration.

A 34 year old neurologically intact woman had carcinoma of the cervix for seven years. The tumour had extended into the right hip and obturator fossa despite treatment with surgery and radiation. An intra-arterial infusion of CIS-platinum (64 mg/m^2) was administered through a cannula in the anterior branch of the right internal iliac artery over 24 hours. Thirty-four hours later she noted paresthesiae in all the toes of her right foot, which over the next ten hours ascended up to the knee. She developed a complete foot drop and was unable to bear weight on the right leg. There were no changes in skin colour or temperature, and all the pulses were intact. Severe flaccid weakness was found in the knee flexors and all the distal musculature, with only moderate weakness in hip extension and abduction. Muscle stretch reflexes were absent in the right ankle and hamstring. There was a complete loss of perception to all modalities in the sole and dorsum of the foot extending up the lateral portion of the lower leg to mid calf. Sensory and motor conductions and the EMG were normal; however, H and F responses were absent in the right leg indicating a proximal deficit.

Six weeks post therapy, painful dysaesthesiae were uncontrolled even with epidural morphine. There was discernible atrophy in the right lower leg. There was marked fibrillation, and motor unit activity was absent in the right gluteus medius, gastrocnemius and tibialis anterior, and markedly reduced in the hamstrings. There was no obtainable sural response in the right leg, and motor conduction was absent in the peroneal and post tibial nerves. These findings indicated severe denervation in the distribution of gluteal and sciatic nerves, sparing the femoral and obturator nerves.

This case demonstrates that although intra-arterial injection of CIS-platinum is an effective means of delivering a high concentration directly to the tumour bed, it may have serious neurotoxic effects when aimed at nerves within the same vascular territory. Pain and paresthesiae within 48 hours were reported in other patients[2,3] given similar doses via the iliac system, with electrophysiological verification of an axonopathic process as in our patient.[4] The exact mechanism of toxicity is not known but may be due either to direct drug neurotoxicity or secondary to an induced vasculopathy.

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