Nail gun injury: a barbed problem

A P Armstrong, D M Davies

Abstract
A case of nail gun injury is reported. Preoperative radiographs are essential to determine whether copper barbs project from the nail shaft before any attempt is made to remove the nail. Thorough exploration is required.

Key terms: nail gun; soft tissue injury

Nail gun injury reports have appeared previously; however, this dangerous tool remains readily accessible for public and professional use. The nail gun is a tool which is able to force a nail into concrete by means of an explosive charge or compressed air. Once embedded the nail resists displacement by means of copper barbs which splay open if the nail is withdrawn back along the path of entry (figure).

The dangers of this tool are twofold: firstly to the person using the device, and secondly to the unwary medical practitioner who attempts to remove it. Further, an attempt to remove the nail without the benefit of a preoperative radiograph is dangerous. At best, the nail will not move, but at worst it does become dislodged and causes damage to the nerves and blood vessels as the barbs engage the soft tissues on withdrawal.

We therefore recommend that nail injuries have an adequate history taken and a preoperative radiograph obtained to ascertain if copper barbs project from the main shaft of the nail. The wound should subsequently be thoroughly explored and vital structures repaired.