TITLE: EPIDURAL BUTAMBEN FOR THE TREATMENT OF METASTATIC CANCER PAIN

AUTHOR: M. Shulman, M.D.

AFFILIATION: Department of Anesthesiology, Illinois Masonic Medical Center, Chicago, Illinois 60657

Introduction. n-Butyl-p-amino benzoate (butamben) is a non-water soluble local anesthetic that has been in use for many years, mainly as a topical anesthetic. Recently, we have been using an aqueous suspension of it to treat chronic pain syndromes.[1] Previous studies in animals had shown that this suspension could be injected into the epidural space without producing nerve damage.[2]

The purpose of this study was to evaluate the efficacy of epidural butamben for the treatment of chronic cancer pain.

Methods. The protocol was approved by the institutional review committee for experimental drugs and procedures and informed consents were obtained from each patient. Twenty-five patients with metastatic cancer who were suffering from chronic pain due to that disease were treated with epidural injections of a 10% suspension of butamben. All patients were referred because they could not achieve adequate pain control with systemic narcotic therapy. Injections were performed at the spinal level corresponding to the dermatomes where pain was being experienced. If adequate pain relief did not occur within four days, a repeat injection was offered to the patient. In addition, two patients had the 3rd division of the fifth cranial nerve blocked with butamben and one of these patients had the ninth cranial nerve blocked. The volume of butamben injected varied from 10 ml to 56 ml for the epidural injections and 5-6 ml for the peripheral nerve injections.

Pain relief was graded according to the patient's estimate of the amount of pain that was alleviated by the block/s. Complete - 100% pain relief; Excellent - 90-99% pain relief; Good - 75-89 % pain relief; Fair - 50-74% pain relief; Poor - 25-49% pain relief; None - 0-24% pain relief.

Results. A total of 36 epidural injections were done; 19 lumbar, 11 thoracic, and 6 cervical. Seventeen patients had what was considered sucessful treatment in that they were satisfied with the degree of pain relief. Of these, 7 had complete pain relief, 5 had excellent pain relief, 3 had good pain relief, and 2 had fair pain relief. The number of patients in each category that required two epidural injections was 4 out of 7 for complete relief, 2 out of 5 for excellent relief, 1 out of 3 for good relief and 1 out of 2 for fair relief.

Three patients had what was considered partially successful treatment. Two of these had excellent pain relief in the area that was treated but subsequently developed pain in different areas within a week of treatment. The third patient, who had a total of three epidural injections, claimed that the pain returned after a week; however, the ward nurses felt that he no longer was experiencing much pain.

Five patients had what were considered therapeutic failures in that pain relief was graded as poor or none. All of these patients had only a single epidural injection and refused repeat injections for various reasons.

Of the seventeen patients who had successful therapy, twelve had pain relief up until the time of death. In these patients death occurred between 7 and 73 days following the last injection. In three patients pain relief wore off before death occurred. This was at 240, 101, and 75 days post block respectively. The first patient had a repeat block that gave complete pain relief but she died 2 days later. The second patient died before the block could be repeated and the third patient refused a repeat block because pain return was only partial.

Two patients with successful blocks are still alive at the time of this writing. One had pain develop in another area 60 days after the block. The other is maintaining pain relief.

There were three complications. Two patients had apparent intra vascular injections resulting in mild seizure activity which resolved rapidly without sequalae. A third patient had an apparent accidental subarachnoid injection. This resulted in a total spinal anesthetic which required respiratory support for 40 minutes and produced a cauda equina syndrome which slowly resolved over 2-3 weeks. Aside from the patient who had the accidental subarachnoid injection, none of the patients showed any sign of any neurological deficit, either motor or sensory.

There was a marked reduction in the daily narcotic requirement of the seventeen patients who were treated successfully. The mean percent reduction in narcotic dosage expressed in 24 hour parenteral morphine equivalents for these patients was 86.18 ± 6.42%.

Discussion. Until now, all attempts at nerve block therapy to relieve the pain of cancer have utilized neurolytic agents usually either alcohol or phenol. A 10% suspension of butamben does not appear to be neurolytic when injected epidurally or along a nerve trunk. This ability to produce sustained pain relief without any accompanied neurological deficit appears to be unique. It is postulated that this effect is due to the continuous slow release of local anesthetic from the particles in suspension.

The epidural injection of butamben suspension appears to be a relatively safe and effective means of relieving the pain of cancer.

References.

1. Shulman M: Treatment of cancer pain with epidural butyl-amino-benzoate suspension. Regional Anesthesia 12:1-4, 1987.
2. Shulman M, Joseph NJ, Haller CA: Local effects of epidural and subarachnoid injections of butyl-aminobenzoate suspension. (Abstract) Regional Anesthesia 12:23-24, 1987.