Title: SYMPATHETIC BLOCKADE VERSUS ADENOSINE MONOPHOSPHATE FOR THE PREVENTION AND TREATMENT OF POST HERPETIC NEURALGIA

Authors: G. L. Brookshire, M.D., J. Cook, M.D., and H. Sklar, M.D.

Affiliation: Anesthesia & Operative Service and Dermatology Service, Eisenhower Army Medical Center, Fort Gordon, Georgia 30905.

Introduction: Herpes zoster is a severe painful infection which often leads to a chronic debilitating pain syndrome. Therapy for herpes zoster (HZ) infection frequently is unsuccessful in treating this post herpetic neuralgia (PHN). Treatment, therefore, has been initiated during the acute phase of infection to prevent the development of PHN. Sympathetic blockade has been effective during the acute infection.[1] However, treatment of PHN is often unsuccessful. Adenosine monophosphate (AMP) has been reported as an effective treatment for acute HZ, yet is also effective in patients with PHN.[2] This study is a placebo controlled comparison of the efficacy of AMP to sympathetic blockade in the prevention of PHN, and the efficacy of AMP in the treatment of PHN for treatment failures.

Methods: After obtaining institutional approval and informed consent, eight ASA Class II patients with herpes zoster rash less than 72 hours old were included in this randomized, placebo controlled double blind study. Patients received a complete history, physical, and laboratory exam. They then had a dermatologic evaluation documenting rash appearance, location, and extent of dermatomal involvement. Lesions were scraped for immunofluorescence confirmation of HZ. Pain was evaluated with a linear analog scale as well as documentation of analgesics used and changes in sleep patterns, activity, and ability to work. Patient evaluations and progress were all performed in the Dermatology Clinic. Patients were then sent to the pain clinic and randomized into three treatment groups. Group 1 (AMP) received AMP 100 mg in 1 ml of gel intramuscularly three times per week for four weeks. They also received three placebo sympathetic blocks. Group 2 (SYM) received 1 ml of gel IM three times a week and three sympathetic blocks with 0.25% bupivacaine. Group 3 (PLACEBO) received 1 ml of gel IM three times a week and three placebo sympathetic blocks. Any patient at the end of four weeks of therapy having persistent pain (PHN) was crossed over to AMP treatment and received 1 ml of AMP gel IM three times a week until resolution of their pain or up to twelve weeks.

Results: All patients had documented HZ infection by immunofluorescence. Four patients received sympathetic blocks, two required AMP for PHN and resolved the pain in 7 and 23 days. Three patients received AMP and resolved their pain in 8-21 days. One patient received a placebo and required AMP for 80 days and continued to have mild persistent pain which resolved with TENS therapy. No patients have pain at the one year followup. Healing and crusting of the lesions were identical in all groups except the one patient receiving placebo. She had a secondary staph infection of the skin lesions delaying healing for 40 days.

Discussion: Patients receiving AMP showed a rapid regression of their pain. The three patients from Groups 2 and 3 developing PHN responded to AMP; however, one of these had a mild persistent pain despite 12 weeks of therapy. These results suggest that first, despite early sympathetic blockade PHN does develop frequently[3] and second, AMP may aid the resolution of PHN and acute HZ.

References:

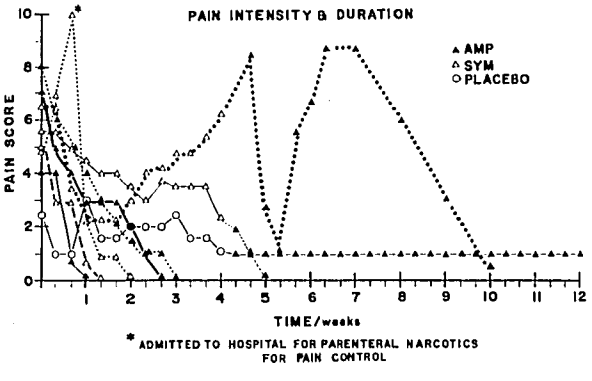
1. Dan K, Tanakak H, Kamihara Y: Herpetic pain and t-cell subpopulation. Bonica JJ, Liebeskind JC, Albe-Fesard D (eds): Advances in pain research and therapy. Vol 3 Proceedings 2nd World Congress on Pain, Montreal, Canada, Aug 27-Sep 1, 1978. New York: Raven Press, 1979.

2. Sklar SH, Blue WT, Alexander EJ, et al.: Herpes zoster, the treatment and prevention on neuralgia with adenosine monophosphate. JAMA 1985; 253(10):1427-1430.

3. Yanagida H, Suwa K, Corssen G: No prophylactic effect of early sympathetic blockage on post herpetic neuralgia. Anesthesiology 1987; 66:73-76.

TABLE 1

| Patient | Age | Treatment | Days Pain Duration | AMP for PHN | Pain at One Yr |
|---|---|---|---|---|---|
| 1 | 62 | AMP | 21 days | no | no |
| 2 | 31 | SYM | 10 days | no | no |
| 3 | 61 | AMP | 8 days | no | no |
| 4 | 61 | SYM | 35 days | yes | no |
| 5 | 72 | PLACEBO | 110 days | yes | no |
| 6 | 68 | SYM | 53 days | yes | no |
| 7 | 42 | AMP | 20 days | no | no |
| 8 | 21 | SYM | 14 days | no | no |




Each curve represents one patient's individual pain intensity over time. Any patient with pain at 4 weeks was crossed over to AMP therapy.