TITLE: PRESACRAL BLOCKADE OF THE GANGLION OF WALTHER (GANGLION IMPAR)

AUTHORS: Drs. Ricardo Plancarte,* Cesar Amescua,* Richard B. Patt,** Silvia Allende*

AFFILIATION: *National Cancer Institute, Mexico City, **Department of Anesthesiology, University of Rochester School of Medicine and Dentistry, Rochester, New York

Introduction: Various nonpharmacologic interventions have been advocated to relieve intractable perineal pain. Intrathecal techniques are associated with high incidences of urinary dysfunction, and other techniques have produced inconsistent results, perhaps because their focus has been on the interruption of somatic nerve pathways. This is the first description of sympathetic blockade employed for the relief of perineal pain. In addition, this is the first description of neural blockade of the ganglion of Walther (ganglion impar).

Methods: After informed consent, patients were positioned in the lateral decubitus position and a skin wheal was raised in the midline at the superior aspect of the intergluteal crease, over the anococcygeal ligament. A 22 g 3 1/2" spinal needle, previously bent to a 25-30° angle, was then inserted w/its concavity oriented posteriorly through the skin wheal and, under fluoroscopic guidance, was directed anterior to the coccyx until its tip was observed to have reached the sacrococcygeal junction. Retroperitoneal location of the needle was verified by observation of the spread of 2 cc of water soluble contrast medium. 4 ml of 1% lidocaine was injected for diagnostic and prognostic purposes and 4-6 ml of 10% phenol was injected for therapeutic blockade.

The 16 patients studied (13 female, 3 male) ranged in age between 24 and 87 (median=48), and had advanced cancer (cervix=9, colon=2, bladder=2, rectum=1, endometrium=2). Pain had persisted in all patients despite surgery and /or chemotherapy and radiation, analgesics and psychological support. Localized perineal pain was present in all cases, characterized as burning and urgent in 8 patients and mixed in 8 patients. Pain was referred to the rectum (7), perineum (6), or vagina (3).

Results: Following neurolytic blockade, 8 patients experienced complete (100%) relief of pain, and the remainder experienced significant reductions in pain (1=90%, 2=80%, 1=70%, 4=60%), as measured with VAS ($p<.0001$). Blocks were repeated in 2 patients with further improvement. Problems were limited to difficulty in needle passage in one patient with rectal cancer, secondary to tumor involvment. Pharmacologic management in these patients had only resulted in a 30% global reduction in pain ($p < .0002$). Followup was dependent on survival and was carried out for 14-120 days. In patients with incomplete relief of pain, its residual somatic component was treated variously with epidural steroids and sacral nerve blocks.

Discussion: The two sympathetic chains converge anterior to the sacrococcygeal junction to form the ganglion of Walther (ganglion impar). The technical approach to blockade of this structure is described, along with preliminary clinical results. This technique is proposed as an alternative means of managing localized perineal pain of sympathetic origin.

TITLE: EFFECTS OF CAPSAICIN ON SCIATIC NERVE SENSORY AND MOTOR FUNCTION

AUTHORS: B.Braverman, Ph.D., J. Kerns,Ph.D., A. Ivankovich, M.D.

AFFILIATION: Anes. and Anat. Depts., Rush Medical College; Chicago, Illinois 60612

The alkaloid extract capsaicin produces long-lasting insensitivity to painful stimuli. Its mechanism of action may be through depletion of spinal Substance P or through a specific neurolytic effect on peripheral C-fibers. The present study examined the chronic motor and sensory effects of capsaicin after direct application to a peripheral nerve, and determined histologically if a neurolytic mechanism is responsible for its action.

Ten male rats were tested for sensory and motor function. Toe-spreading reflex was graded from 0 (loss of reflex) to 3 (normal) for each hindfoot. Response for foot withdrawal from a thermally-controlled plate was timed. Five tests were done on each hindfoot. The rat was anesthetized with ketamine/acepromazine. With the rat in the lateral position, the heel of the foot was secured and skin electrodes placed across the sciatic nerve. Electrical stimulation was applied and toe twitch tension measured. The procedure was repeated for the opposite hindfoot. After baseline testing, the rats were anesthetized as above and the sciatic nerve exposed on each side under sterile conditions. One side was treated with 4 mg capsaicin and the other with vehicle (10% Tween 80). The rats were again tested on postop days 2,7,10,14,21, and 28. They were sacrificed and tissue fixed for histological examination.

All animals recovered and none demonstrated behavior suggesting irritation by capsaicin. The toe-spreading reflex and twitch tension response did not differ from baseline measurements for either capsaicin or vehicle at any time. Marked differences were observed for the pain withdrawal reflex for the capsaicin-treated hind foot compared to the vehicle-treated foot and with baseline measurements. The vehicle-treated hind foot did not differ from baseline measurements. (Figure)

Light and electron micrographs did not reveal any evidence of pathology. Bundles of unmyelinated C-fibers were visible and normal in appearance. Though its mechanism of action is still controversial, the results of this study suggest that capsaicin is not neurolytic for C-fibers and does not interfere with direct or reflex motor function. Capsaicin produced long-lasting insensitivity to thermal pain in rats and may promise to be a clinically efficacious long-acting analgesic agent.