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SHORT COMMUNICATION

MEFENAMIC ACID IN DYSMENORRHEA

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A functional etiology for dysmenorrhea is stressed by several gynecologists (2, 9, 10), especially since it was discovered that prostaglandins (PGs) contract the uterus. The antiprostaglandins are proposed for the treatment of dysmenorrhea (8, 9, 10). The popular salicylates are less potent inhibitors of PG-synthetase than mefenamic acid, which also interferes the binding of PGs to the cell (6, 11). For these reasons, mefenamic acid might be effective in the treatment of a dysmenorrheic patient. This study was designed to observe the clinical symptoms, the uterine activity and the primary plasma PGs (E & F) and progesterone (P) before and after the treatment of a dysmenorrheic patient with mefenamic acid (Ponstan®).

Study patients had severe dysmenorrhea, which made them unable to work during their 1st day of menstrual bleeding. All patients had used other drugs before this treatment, with no complete relief of pain. They had no pathology on gynecological examination, except for possible uterine hypoplasia.

11 patients received 750 mg single dose of mefenamic acid during their 1st day of menstruation. The intrauterine pressure (IUP) was measured with the microballoon method during the 30 min period before and the 3 hours' period after the medication (4). Plasma PGE, PGF and P were determined (by RIA (1, 5)) before and 3 hours after the medication. Their dysmenorrheic symptoms were followed during the four-hour experimental period.

Uterine resting pressure, frequency of contractions and also, slightly, the active pressure decreased in about 2 hrs after mefenamic acid (Fig. 1). Subjective relief of dysmenorrheic pain was coincident with the decrease in uterine activity. One patient taking oral contraceptives without help for her dysmenorrhea, had no further decrease in IUP and no relief of pain when treated with mefenamic acid.

The plasma PGE was 39±6 pg/mg before the medication and 32±5 pg/ml 3 hours after 750 mg single dose of mefenamic acid. Respective values for PGF were 9±2 and 5±1 pg/ml in 10 successfully determined pairs of plasma samples. Because of variation in plasma PG determinations, the statistically nearly significant decrease ($p < 0.05$) in plasma PGF with mefenamic acid remains slightly uncer-

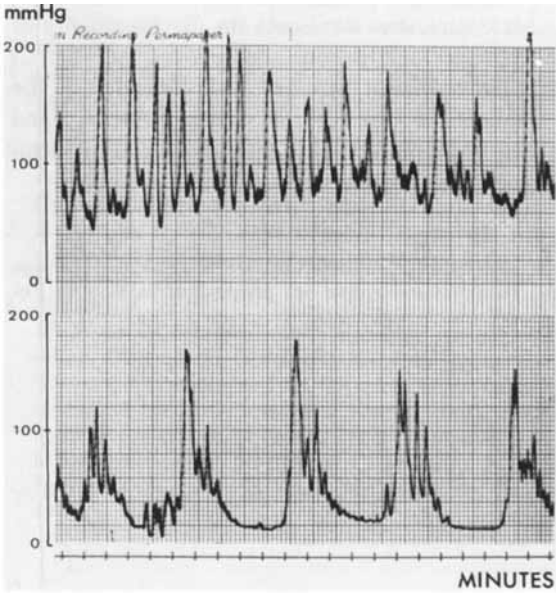

Fig. 1. Uterine activity before (upper line) and after a single dose of 750 mg mefenamic acid during the 1st day of menstruation. Original recording. Note the decrease in uterine resting pressure and frequency of contractions, nearly unchanged active pressure (decreasing later on), coincident with the disappearance of dysmenorrheic pain.

tain. Plasma P was 2.5±0.16 and resp. 2.4±0.17 ng/ml. There was no significant change in plasma PG/P ratio, a far more important factor than PG or P alone (3). The primary levels of plasma PGE & F in dysmenorrheic patients were also in the same range as in the nonpregnant patients studied for other purposes in our laboratory (for PGE 15–80 pg/ml, for PGF 5–30 pg/ml). Nor have Wilks et al. (11) given any diagnostic value on plasma PGs in establishing the cause of dysmenorrhea. Hyperprostaglandinemia *can* exist in patients with dysmenorrhea associated with vomiting, diarrhea and pyrexia (7), a possible inborn error of metabolism with deficiency of 15-hydroxyprostaglandin dehydrogenase.

26 study patients received 500 mg mefenamic acid every 6–8 hours. The medication was started as soon as they realized the menstrual pains were appearing. Out of 75 treated cycles, 67 cycles became painless, in 4 cycles mild dysmenorrheic pains remained, and in 4 cycles of 4 patients there was no relief of pain.

Two separate gynecologists used the same treatment for about 200 cycles of 50 dysmenorrheic university students and reported about 90 per cent of the cycles to have turned painless.

Mefenamic acid decreases the uterine activity of a dysmenorrheic patient and relieves the pain so frequently that it can be used clinically in the treatment of true dysmenorrhea. Double blind study (with placebo) is required for final conclusion of clinical efficacy.

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