

Comparative Study of the outcome of the treatment with Danazol and or without Sports Brassieres in the Management of Mastalgia

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Summary:

Background Mastalgia is described as diffused or itching pain of the breast. Usually, active movement of heavy breast supported by weak suspensory ligaments contribute mainly to the etiology of mastalgia which is considered the most frequent complaint of women attending Al-Elwiya teaching hospital for consultation.

Objective:- The aim was to minimize breast pain in mastalgic women. By wearing the sport brassieres with or without the use of danazol.

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Patient and method :- Two hundred and fifty cyclic and non cyclic women suffering from some degrees of mastalgia were chosen randomly from breast clinic of AL-Elwiya teaching hospital from June 2004 till August 2005. The mastalgic women were divided into 3 groups: group A was prescribed to take 200 mg. danazol daily, group B was instructed to wear the sport brassieres while group C was prescribed to take 100 mg. danazol daily plus wearing the sport brassieres. The duration of the project was 12 weeks. All women under study were educated to complete a breast pain chart using visual analogue scale (VAS).

Results: The outcome of the breast pain study revealed that the combined use of sport brassieres plus the intake of 100 mg. danazol associated with highly significant decrease in VAS with low side effects.

Conclusion: The management of mastalgic suffering women was the combined use of the sport brassieres beside the intake of 100 mg. danazol which decreased breast pain and minimized side effects.

Keywords:- Mastalgia – Danazol-Sport Brassieres

Introduction:

Breast pain in women was first described in early 19th century by Sir Astley Cooper, who suggested that women who sought advice for breast pain were "usually of a nervous and irritable temperament", (1). Mastalgia remains a poorly characterized, underreported syndrome but it is among the most frequent reason for breast consultation in general practice, (2).

As might be anticipated, mastalgia can be etiologically classified into cyclic, noncyclic or other causes, where the cyclic mastalgia most commonly present during the third decade of life and the perceived pain is characterized being dull, burning or itching in nature. On the other hand, cyclic mastalgia usually starts 7-11 days prior and accentuating further until the onset of menses, (4).

Early remedies used in the treatment of mastalgia were primrose oil and danazol with reasonable relief reached 92% of over all attendant of the out patient department of cyclic mastalgia and 64% of the noncyclic patient, (5). A well understanding of breast anatomy, that an active breast movement on its weak suspensory ligaments, may contribute considerably to mastalgia (6,7). Good external support by sports brassieres can relieve breast pain (8). This prospective study aimed to compare the

outcome between treating with danazol or wearing brassieres or both of them.

Patients and methods

This study was carried out at the breast clinic of Al- Elwiya teaching hospital, a well established, women health center in Iraq from June 2004 till August 2005. Two hundred and fifty women were included in this prospective study, all of them with some degree of both cyclic and non cyclic mastalgia, They were divided in to 3 groups: 90 women were treated by 200mg/day danazol (group A), 80 women were requested to wear sports brassieres during their regular daily activity for period of 12 weeks (group B) and 80 women treated management danazol 100mg/day and asked to wear sport brassieres (group C) they were evaluated in out patient department. All groups were educated to complete a breast pain chart using visual analogue scale (V.A.S.) before starting treated as a base, line then after 3 months of treatment. The data were analyzed using statistical package for social science (spss10). Descriptive statistics and expressed in term of mean and standard deviation were used for numerical variables. The differences were evaluated using the student t test and calculating the t value for the degree of significance.

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Results:

The first group (A) who received 200 mg danazol/day for 12 weeks, the initial Visual Analog Scale (V.A.S.) was 4.43 ± 0.912 and the post treatment the scale dropped to 2.344 ± 1.264 , with significance ($P < 0.001$). The 2nd group (B) who were instructed to wear the sport brassier for 12 weeks, the initial V.A.S. was 3.812 ± 0.955 and then after 12 weeks the scale dropped to 2.525 ± 1.262 and the difference was significant up to $p < 0.001$. The 3rd group (C) who received a combination of 100 mg danazol daily and the simultaneous use of sport brassieres, The initial scale was 4.475 ± 0.899 and the effect showed a drop of V.A.S. to 1.862 ± 1.24 . The combined effect was highly significant ($p < 0.001$). Table and fig 1

Table 1: shows the effects of 3 groups of paired setting of women; in A the women took 200 mg danazol daily, in B women wore the sport brassieres and lastly C used a combination of 100 mg danazol daily and wearing the brassieres simultaneously for 12 weeks period.

Treatment Group	Initially-VAS	The VAS after 12 weeks	The calculated T value and P
A- 200 mg danazol daily-n=90	4.43 ± 0.912	2.34 ± 1.26	$6.307, < 0.001$
B-the use of brassieres-n =80	4.47 ± 0.89	1.86 ± 1.24	$6.274, < 0.001$
C-100 mg use of danazol daily plus brassieres-n =80	3.817 ± 0.95	2.52 ± 1.26	$11.864, < 0.001$

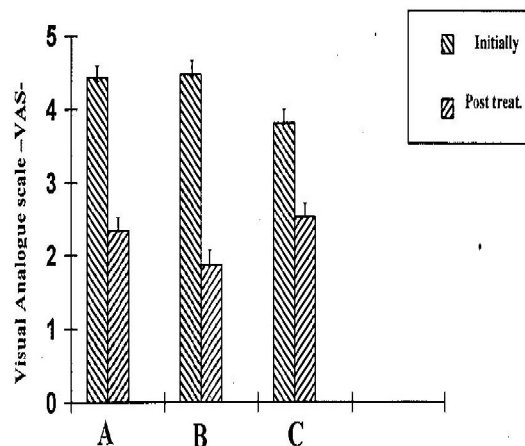


Fig 1: Shows the relative effects in VAS units of women taking 200 mg danazol daily (A), wearing the sport brassiere (B), or taking 100 mg danazol daily beside wearing the sport brassieres for 12 weeks period, (C). The effects were expressed in terms of $\bar{X} \pm SD$.

Discussion:

In general practice, 66% of the patient of the breast clinic, suffer from breast pain, and 21 % of those, the mastalgia scored severe medical help while only half of them requested assistance. (3).

The results indicated that all who requested clinical treatment, had significant relief of breast pain, whether taking danazol or wearing the sport brassieres. Danazol, the 2,3-isoxazol derivative of 17-a ethynyl testosterone (ethisterone), is an attenuated androgen and the only drug approved by U.S. food and drug administration for the treatment of mastalgia. At dose of 100mg/day, it inhibits the mid-cycle surge of LH. Danazol competitively inhibits estrogen and progesterone receptors in breast, hypothalamus and pituitary, as well as ovarian steroidogenesis.

The higher dose of danazol produced a better and more rapid clinical response, and the relapse was sooner when danazol was discontinued (3). Danazol is associated with unpleasant side-effects which occur in about one-third of the patients, such as nausea, dizziness, skin reaction including rash, backache, anxiety, changes of libido, fatigue, weight gain, menstrual disturbance, flushing, musculo-skeletal spasm, joint pain, androgenic effect including acne, edema, hirsutism, metabolic changes, thrombotic effect. (1) The use of breast support has shown that there is more than hormonal and metabolic elements that affect the breast. Exercise usually results in large displacement of the breasts leading to breast pain. Due to minimal intrinsic

structural breast support. It is suggested that the primary anatomic support for the breast are the Coopers ligaments, however, their true functional properties are unknown. In an attempt to reduce breast motion external support has been developed. (9)

The use of sports brassieres beside a small dose of 100mg danazol indeed does help in reducing breast motion, thereby reducing the pain (10).

This study showed that combined use of both danazol in a small dose of 100mg/day and wearing sport brassieres will decrease the side effect of drug and give better tolerance for treatment of mastalgia.

Conclusion:

Mastalgia is a real proplem that deserves both clinical and social understanding, the combinations of medical treatment of 100mg danazol/day and wearing sport brassieres will decrease the need for large dose of the drug and consequently decrease the side effects of the drug. The active efforts of Dr Mehdi I.Hilmy of the physiology department, Baghdad College of Medicine, in reading the manuscript and his constructive suggestions and remarks were highly appreciated and well received.

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