



RESEARCH ARTICLE

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A Randomized Control Study to Compare the Efficacy of Centchroman with Danazol in Control of Mastalgia in Fibrocystic Diseases of Breast

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ABSTRACT

Background: Mastalgia is the most common presenting symptom alongside lump and nodularity. There are several treatments in practice for treatment of mastalgia including the use of topical diclofenac ointment, oral linoleic acid (Mecgla), Vitamin E and topical evening primrose oil application. Danazol, an androgenic compound, has proved to be efficacious in the treatment of mastalgia, albeit with a range of side effects. Centchroman (or Ormiloxifene), sold under the trade name of Saheli, Chhaya and Sevista is a Selective Estrogen Receptor Modulator (SERM) has shown to be efficacious in treatment of mastalgia along with having fewer and milder side effects. This study aims at comparing the efficacy of Centchroman with that of Danazol in treatment of mastalgia due to fibrocystic diseases of breast and to assess the sustained response and recurrence of mastalgia in patients receiving Centchroman.

Materials and methods: All cases of fibrocystic breast diseases with mastalgia presenting to OPD at Department of Surgery, M.G.M Medical College and M.Y Hospital, Indore. This prospective randomized control study which was carried out on 60 patients, in which 30 patients were given Centchroman and rest 30 patients were given Danazol for mastalgia in Department of General Surgery M.Y. Hospital, Indore, M.P. Patient outcome was recorded using VAS Record analysis.

Discussion: In our study 60 patients complaining of Mastalgia were divided into two groups and one group was treated with Oral Centchroman while the other group was given Oral Danazol, the final results were as such-the tolerability of Centchroman was 100% whereas that of Danazol was only 90%. The reduction in mean VAS score for pain in patients of Centchroman group was significantly greater than reduction of mean VAS score in the Danazol group. The sustained response to therapy was better in the Danazol group. The difference in incidence of side effects is not significant between the two groups.

Conclusion: In our Randomized control study, we come to the conclusion that Centchroman is more efficacious than Danazol in treatment of mastalgia in fibrocystic diseases of breast, with better tolerability, fewer side effects and comparable long term sustained response and recurrence rates. Therefore it can be used as an alternative medication in treatment of mastalgia.

ARTICLE HISTORY

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Mastalgia; Centchroman; Danazol; Fibrocystic diseases of breast

Introduction

The female Breast is a dynamic organ that undergoes an array of physiological changes throughout the life of a woman. Mastalgia is a common complaint in patients attending a breast clinic. A duration of painful nodularity of more than one week of the cycle is a useful definition for differentiation from normal discomfort, and the severity of the pain can be quantified with a Visual Analogue Scale (VAS) chart [1]. The most common age group affected by mastalgia is

25 to 40 years. Mastalgia can be cyclical, defined as breast pain only during the premenstrual period, or breast pain throughout the month with only premenstrual exacerbation or it can be non-cyclical, that is with no specific relation to the menstrual cycle. There are several hypotheses for the development of mastalgia in benign breast disorders including an excess of estrogen causing ductolobular proliferation and interstitial fluid increase resulting in an increased volume which in turn causes pressure on nerve endings leading to mastalgia. 8% of pre-menopausal

women present excessive and irregular engorgement of nodularities, while another 8% have cystic disease, adenosis or fibrous disease [2]. Treatment of the pain of fibrocystic breast disease could be achieved by conservative methods such as analgesics, properly fitted brassieres, diet (Iodine), the application of local heat, or application of evening primrose oil. A broad range of pharmaceutical products are used, of which is Danazol was reported as the most commonly used by 75% of the surgeons, despite its side effects [3]. Few other options in practice for treatment of mastalgia including the use of topical diclofenac ointment, oral linoleic acid (Mecgla), and oral Vitamin E. These methods have limited efficacy as well as long term sustained response and benefit only by the way of having less side effects in comparison to newer modalities. Danazol, which is a derivative of the synthetic steroid ethisterone, a modified testosterone, suppresses gonadotropin secretion, prevents luteinizing hormone surge, and inhibits ovarian steroid formation. It was found in controlled clinical trials to relieve breast pain and tenderness in the women treated considerably [4]. Danazol, an impetled androgen, is capable of suppressing the ovulatory luteinizing hormone surge, interferes with gonadal steroidogenesis (both directly and indirectly dampens the gonadotropin response to luteinizing hormone releasing hormone and is believed able to block estrogen and progesterone receptors at the breast tissue level [5-8]. Danazol has proved to be efficacious in the treatment of mastalgia, albeit with a range of side effects varying from minor like acne, weight gain, weakness, to serious like clitoromegaly and hoarseness of voice, owing to its androgenic effects. Centchroman (or Ormiloxifene), sold under the trade name of "Saheli", "Chhaya" and "Sevista" is a Selective Estrogen Receptor Modulator (SERM) used popularly as a once-a-week non-steroidal Oral Contraceptive Pill which has shown to be efficacious in treatment of mastalgia along with having fewer and milder side effects. In a Randomized trial comparing centchroman with evening primrose oil in mastalgia, the centchroman arm had shown statistically significant difference in treating severe cyclical as well as non-cyclical mastalgia [9]. Danazol is effective drug for benign breast disorders in early period but Centchroman offers a safe, more effective and less expensive in long term. Recurrence of disease are also less with Centchroman [10].

This study aims at comparing the efficacy of Centchroman with that of Danazol in treatment of mastalgia due to fibrocystic diseases of breast and to assess the sustained response and recurrence of mastalgia in patients receiving Centchroman.

Materials and Methods

All cases of fibrocystic breast diseases with mastalgia

presenting to OPD at Department of Surgery, M.G.M Medical College and M.Y Hospital, Indore. This prospective randomized control study which was carried out on 60 patients, in which 30 patients were given Centchroman and rest 30 patients were given Danazol for mastalgia in Department of General Surgery M.Y. Hospital, Indore, M.P.

All patients were informed about the other treatment options, their results, and complications for the treatment of mastalgia. All patients in study underwent a detailed history including general examination and investigations. Patients were categorized into two groups A and B using simple randomization technique. Group A patients were given Centchroman therapy of 30 mg for 3 months on alternate days, while Group B patients were given Danazol therapy of 100 mg for 3 months once every day. Patient outcome was recorded using VAS Record analysis at

1. 1 week for assessment of tolerance
2. 4, 8, 12 weeks for pain relief
3. 24 weeks for assessment of sustained response and recurrence of mastalgia

The Data was collected using the Visual Analogue Pain Scale (1-10).

Results and Discussion

In our study 60 patients complaining of Mastalgia were divided into two groups and one group was treated with Oral Centchroman while the other group was given Oral Danazol, the final results were as such-the tolerability of Centchroman was 100% whereas that of Danazol was only 90%. The reduction in mean VAS score for pain in patients of Centchroman group was 4.2 (from start of therapy to 4th week) and 2.5 (from 4th week to 8th week) which was significantly greater than reduction of mean VAS score in the Danazol group which was 1.7 (from start of therapy to 4th week) and 1.6 (from 4th week to eight week). But the difference between reduction in mean VAS from 8th week to 12th week was not significant between the two groups (0.2 in Centchroman group and 0.6 in the Danazol group). The sustained response to therapy was better in the Danazol group where the mean VAS at 12th (2.11) was comparable to the mean VAS at 24th week (2.33), whereas the Centchroman group did not show a sustained response in VAS (0.97 at 12th week compared to 2.7 at the 24th week) The recurrence of mastalgia was comparable in both the groups. The difference in incidence of side effects such as Amenorrhoea (0% in Centchroman group and 6.7% in Danazol group), delayed menses (20% in Centchroman group and 10% in Danazol group), menorrhagia (3.3% in Centchroman group and 6.7% in Danazol group), allergic reactions (0% in Centchroman group and 0% in Danazol group),

acne (0% in Centchroman group and 10% in Danazol group), weight gain (0% in Centchroman group and 6.7% in Danazol group) and other non-specific side effects (16.7% in Centchroman group and 10% in Da-

nazol group) is not significant between the two groups. The incidence of scanty menses is significantly higher in the centchroman group (53%) than the Danazol group (6.7%) (Figure 1 and Tables 1-2).

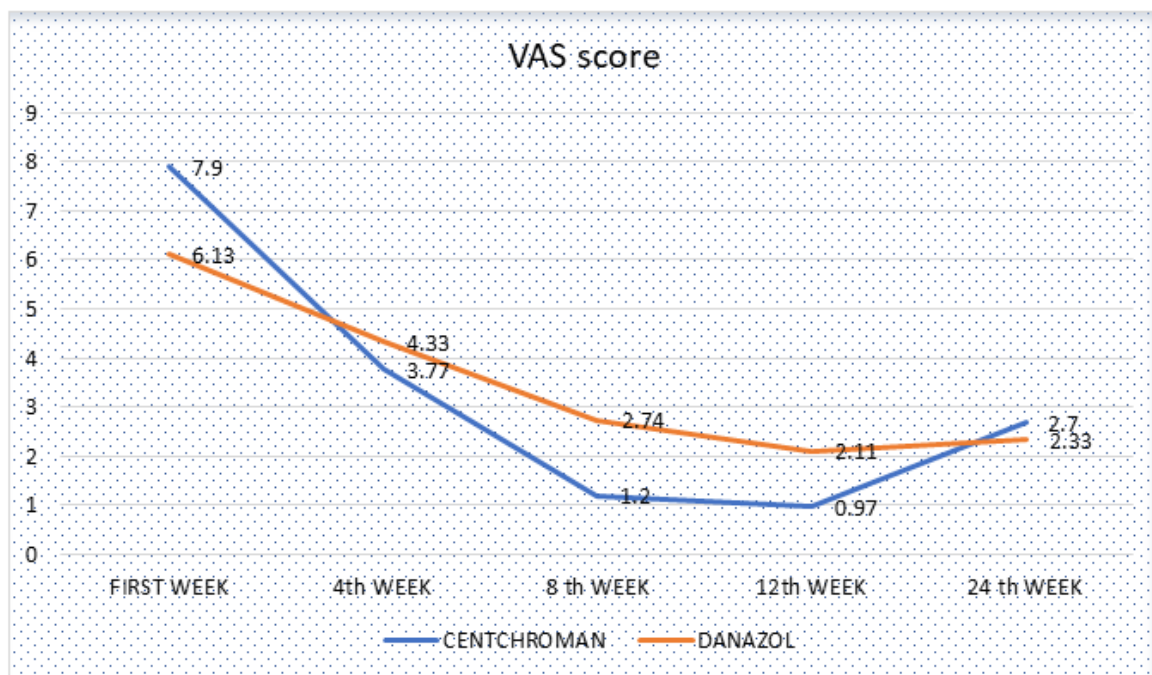


Figure 1. Visual Analogue Scale from 1-24 weeks. **Note:** (—) -Danazol; (—) -Centchroman

Table 1. Comparison of VAS score at different time interval in between groups.

	Group	N	Mean	Std. Deviation	p-value
VAS at first week	Centchroman	30	7.9	1.494	0.000 significant
	Danazol	30	6.13	1.943	
VAS at 4 weeks	Centchroman	30	3.77	2.254	0.379 Not significant
	Danazol	27	4.33	2.572	
VAS at 8 weeks	Centchroman	30	1.2	1.324	0.004 significant
	Danazol	27	2.74	2.443	
VAS at 12 weeks	Centchroman	30	0.97	1.402	0.027 significant
	Danazol	27	2.11	2.326	
VAS at 24 weeks	Centchroman	27	2.7	3.16	0.631 Not significant
	Danazol	27	2.33	2.434	

Table 2. Comparison of side effects in between groups.

		Drug group				P-value
		CENTCHROMAN		DANAZOL		
		DANAZOL	Column N %	Count	Column N %	
Amennorrhoea	Absent	30	100.00%	28	93.30%	0.150
	Present	0	0.00%	2	6.70%	Not significant
Delayed menses	Absent	24	80.00%	27	90.00%	0.278
	Present	6	20.00%	3	10.00%	Not significant
Menorrhagia	Absent	29	96.70%	28	93.30%	0.554
	Present	1	3.30%	2	6.70%	Not significant
Scanty menses	Absent	14	46.70%	28	93.30%	0.000*
	Present	16	53.30%	2	6.70%	Significant
Allergic reactions	Absent	30	100.00%	30	100.00%	NA
Acne	Absent	30	100.00%	27	90.00%	0.076
	Present	0	0.00%	3	10.00%	Not significant
Weight gain	Absent	30	100.00%	28	93.30%	0.150
	Present	0	0.00%	2	6.70%	Not significant
Non-specific side effects	Absent	25	83.30%	27	90.00%	0.448
	Present	5	16.70%	3	10.00%	Not significant

Conclusion

In our Randomized control study, we come to the conclusion that Centchroman is more efficacious than Danazol in treatment of mastalgia in fibrocystic diseases of breast, with better tolerability, fewer side effects and comparable long term sustained response and recurrence rates. Therefore it can be used as an alternative medication in treatment of mastalgia.

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