



**COMPARATIVE STUDY BETWEEN  
PNEUMATIC PRESSURE AND PRESSURE  
GARMENT IN TREATMENT OF POST  
MASTECTOMY LYMPHEDEMA**

By

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# *Acknowledgement*



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# **Purpose of the Study:**

**Was to detect which is more effective pneumatic pressure or pressure garment in treatment of post mastectomy lymphedema?**

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***Subjects, Materials and Methods***

## Criteria for patients selection :

- › The age of the patients were ranged from 40:70 years.
- › All patients were selected from out clinic patients.
- › All patients had unilateral arm lymphedema post mastectomy.
- › All patients were assessed carefully by the surgeon before starting the program.
- › All patients were received decongestive physical therapy program.
- › All patients were evaluated pre-treatment, after 6 weeks and after 12 weeks.
- › All patients had mild to moderate lymphedema.

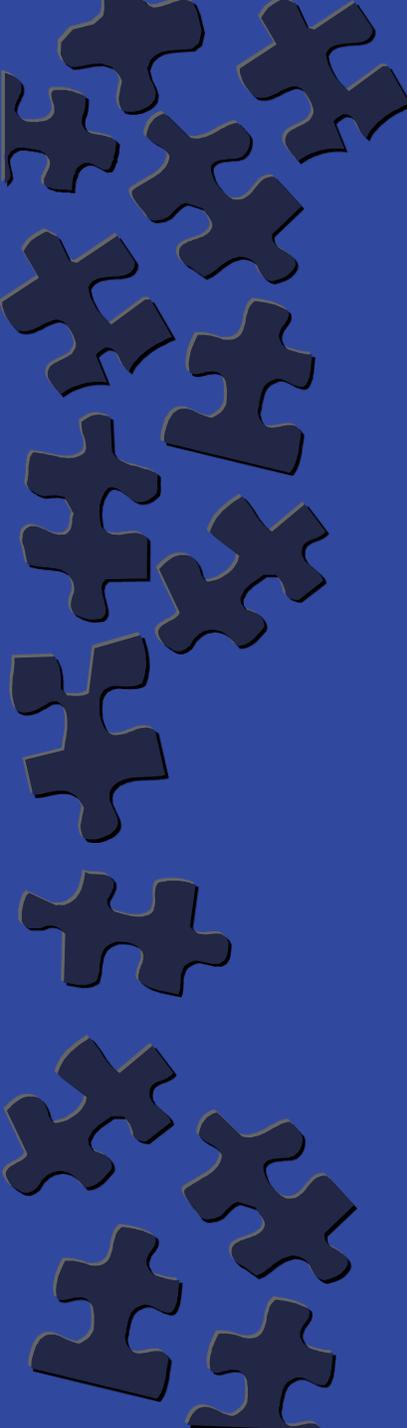
Patients were divided  
into two groups (Thirty patients for each)

**Group (A)  
(pneumatic group):**

- This group composed of thirty post mastectomy patients with lymphedema, and this group received the decongestive physical therapy program in addition to 30 minutes of pneumatic compression therapy, treated 3 sessions per week for three months

**Group (B) (pressure  
garments group):**

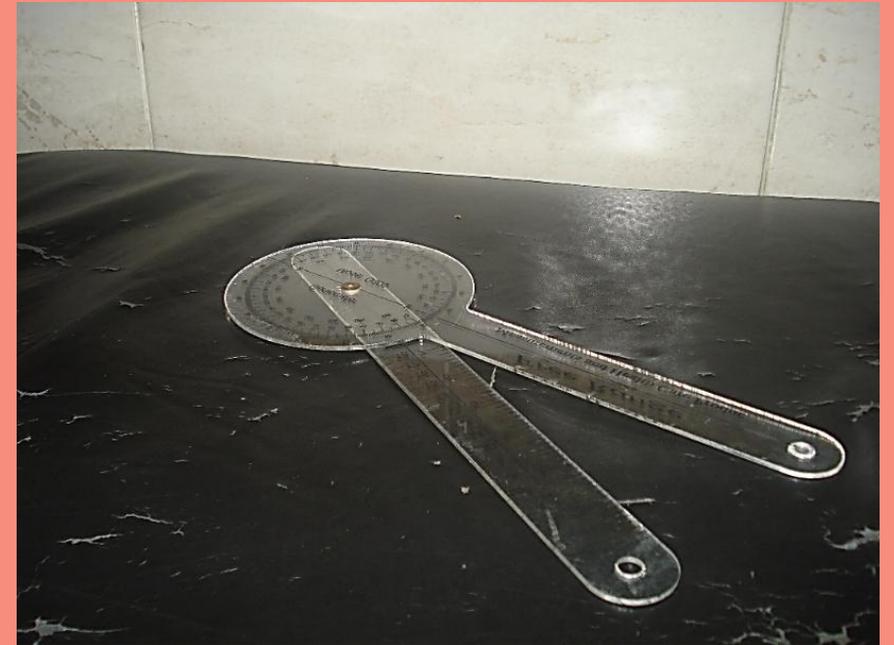
- This group was composed of thirty post mastectomy patients with lymphedema, and received decongestive physical therapy program in addition to well fitted pressure garments and treated 3 sessions per week for three months.



# ***Evaluative tools***

**1-Tape measurement**

**2-Goniometer**



### 3- Dynamometers

### 4- Quality of life Scale QOLS





# ***Therapeutic procedures***

- All patients in the study had decongestive physical therapy program to decrease edema, including: Manual lymphatic drainage, skin and nail care, Exercises in form of: Pumping exercises, Stretching and strength exercises, and range of motion exercises for shoulder joint (**Uzkeser, 2012**).



**Manual lymphatic drainage**

## Therapeutic Procedure for Group (A):

- Patients in this group were received decongestive physical therapy program in addition to pneumatic compression 50mmHg for 30 minutes three times /week for 3 months



**Pneumatic pressure device**

## Therapeutic Procedures for Group (B):

- Patients in this group received decongestive physical therapy program in addition to pressure garment.
- Patients fitted with a compression garment all the day, and remove before sleeping.

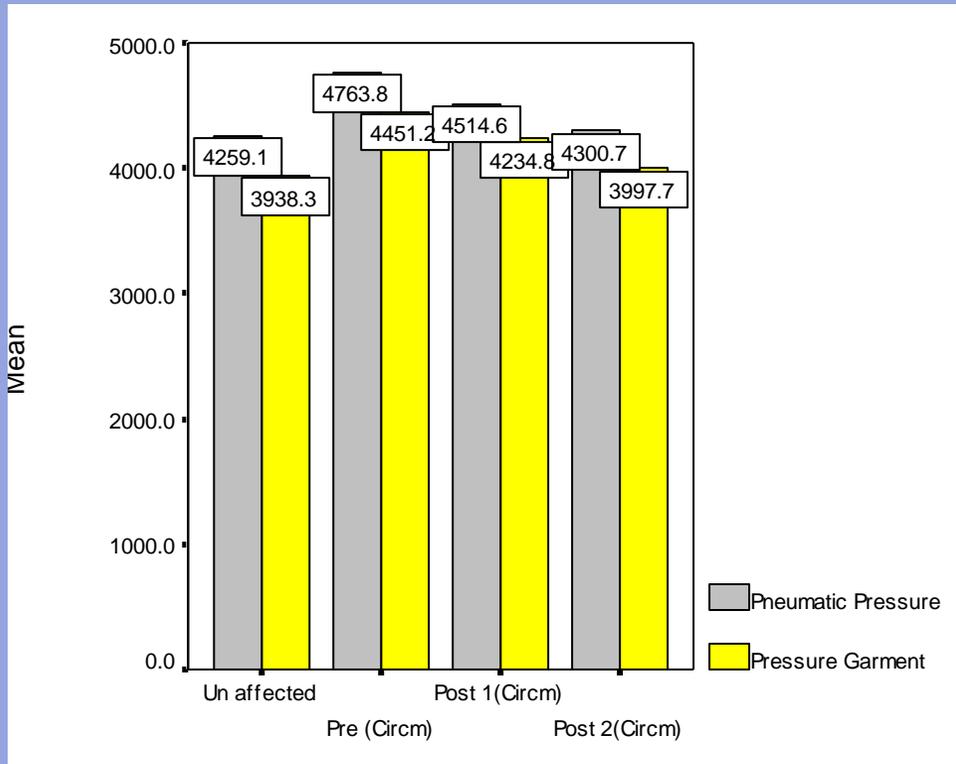


**Pressure Garment**

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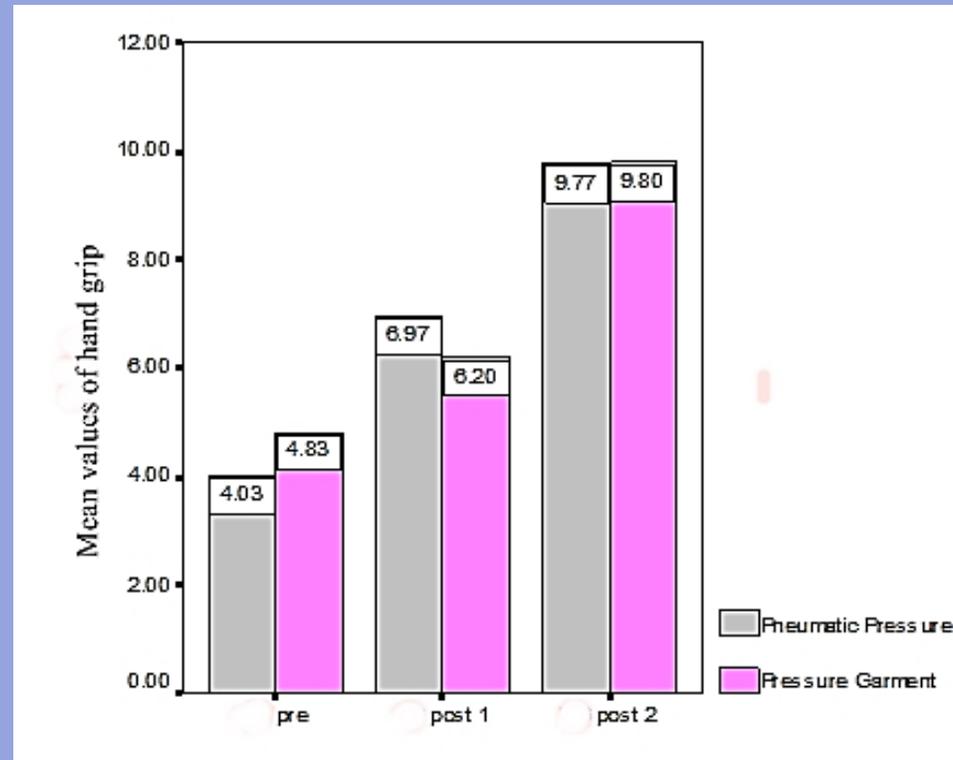
# *Results*

## ➤ Limb volume results



Comparison between treatment mean values of limb volume of group (A) and group (B)

## ➤ Hand grip results

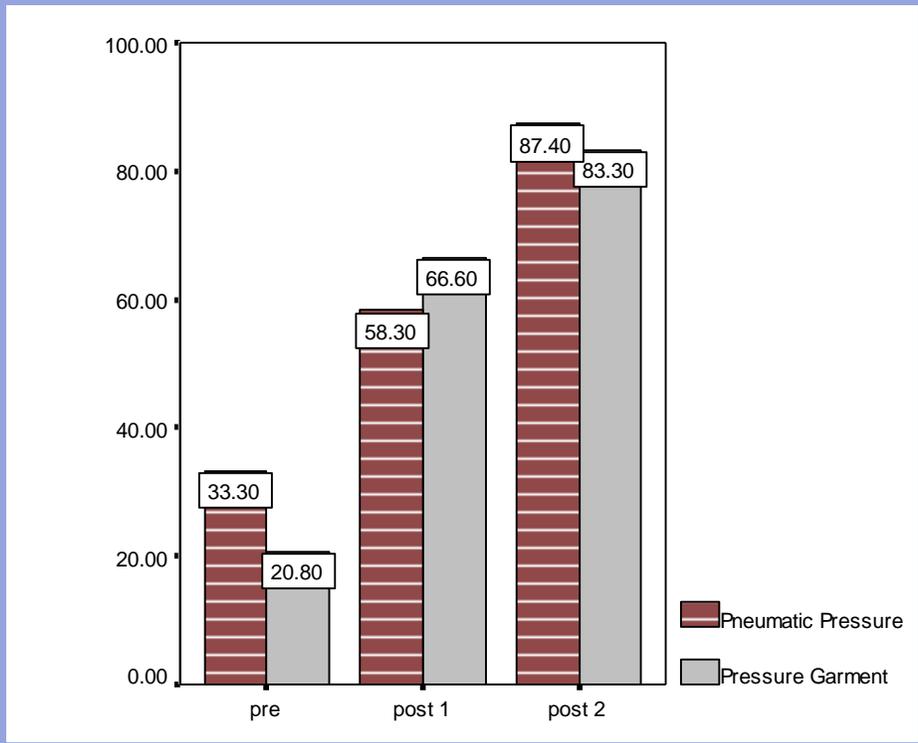


Comparison between treatments mean values of Hand grip (HG) of group (A) and group (B)

### ➤ **Shoulder range of motion results**

- › There was no statistical significant difference in (flexion, abduction and external rotation) between both groups.

## ➤ Quality of life scale results



Comparison between treatments mean values of QOLS of group (A) and group (B)



*Discussion*

- The main objective of the lymphedema treatment is to reduce volume, restore function, and improve physical appearance of the affected limb (**Koul et al., 2007**).
- This study showed no clinically statistical significant difference between group (A) pneumatic pressure and group (B) pressure garment group and there were statistical significant difference between affected and unaffected side in both groups

**which can be explained by that:**

- › Pneumatic compression reduces lymphedema by reabsorption of fluid, muscle pumping and organizing lymph flow(**Tiwari et al, 2013**).
- › On the other hand pressure garment reduces lymphedema by aiding drainage, prevent fluid reaccumulation and accelerating lymphatic flow (**Uzkeser ,2012**).

# *Conclusion*

- › It was concluded that both pneumatic pressure and pressure garment equally effective in reducing lymphedema, consequently increasing shoulder range of motion, hand grip and quality of life. With no favor from one to the other modality.

# RECOMMENDATIONS

**In the light of the main finding of current study the following recommendations are suggested:**

- › 1- Replicating the study on large sample and different hospitals.
- › 2-Comparing other components of combined decongestive therapy.
- › 3- Replicating the study with long term follow up.
- › 4-Comparing different pressure and different time of pneumatic pressure.

Thank You

The text "Thank You" is rendered in a highly decorative, cursive script. The letters are filled with a deep red color and outlined with a bright gold border. The text is embellished with clusters of vibrant red roses and green foliage. Two white doves are depicted in flight, one positioned above the letter 'h' and the other above the letter 'o'. The entire graphic is set against a plain white background.