Patients and methods

The role of therapy

We present the results of a prospective study of a group of women with breast cancer who were treated with a combination of chemotherapy and hormone therapy. The study was designed to evaluate the efficacy of hormone therapy in improving survival rates in comparison to chemotherapy alone.

Methodology

The study was conducted at the University of California, Los Angeles, and included 130 patients with stage III breast cancer. Patients were randomly assigned to receive either hormone therapy alone or a combination of hormone therapy and chemotherapy.

Results

The results showed that patients who received hormone therapy alone had a significantly higher survival rate compared to those who received chemotherapy alone. The median survival time for patients in the hormone therapy group was 24 months, compared to 18 months for the chemotherapy group.

Conclusion

Hormone therapy is an effective treatment for stage III breast cancer patients. Further studies are needed to determine the optimal duration and type of hormone therapy.

Keywords: Hormone therapy, breast cancer, survival.
<table>
<thead>
<tr>
<th>Treatment</th>
<th>Bone Density</th>
<th>Bone Size</th>
<th>Estrogen Level</th>
<th>Testosterone Level</th>
<th>Midline Spinal Distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-treatment</td>
<td>0.84 (0.11)</td>
<td>71 (28-100)</td>
<td>2 (range)</td>
<td>0.75 (range)</td>
<td>453 (204-2883)</td>
</tr>
<tr>
<td>1 Year after treatment</td>
<td>0.91 (0.11)*</td>
<td>80 (30-85)</td>
<td>3 (0.4-2.4)</td>
<td>0.6 (0.3-1.8)</td>
<td>7 (2.7-9.4)</td>
</tr>
</tbody>
</table>

*Significant difference (p < 0.001)

**Table 1:** Mean values of bone density at lumbar spine and neck of femur, body weight, blood pressure, and plasma hormone values before therapy and after 1 year of estrogen and testosterone implants.

**Results:**
- Of the 23 patients studied, 22 patients showed an increase in bone density at the lumbar spine, seen with a treatment of estradiol and testosterone over a 12-month period. The mean increase was 0.84 g/cm² (SD 0.11), which was significant (p < 0.001).
- The mean increase in bone density was 0.84 g/cm² (SD 0.11) at one year (Table 1). The mean bone density after 1 year of therapy was 0.91 g/cm² (SD 0.11), which was increased to 0.91 g/cm² (SD 0.11), which was increased to 0.91 g/cm² (SD 0.11). The mean increase in bone density was 0.91 g/cm² (SD 0.11), which was increased to 0.91 g/cm² (SD 0.11). The mean increase in bone density was 0.91 g/cm² (SD 0.11), which was increased to 0.91 g/cm² (SD 0.11).

**Conclusion:**
- Estradiol and testosterone therapy is effective in increasing bone density at the lumbar spine and neck of femur in postmenopausal women. Further study is needed to determine the long-term effects of this treatment on bone health.
Figure: Positron-emission tomography (PET) scan showing increased uptake in the brain of a patient with Alzheimer's disease. The increase is proportional to the severity of the disease, with higher uptake in more severe cases.

Comment:

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Fig. 3. Effect of pretreatment on outcome of progression in the brain of elderly patients.

Fig. 1. Correlation between progression in the brain of elderly patients and phosphorylated tau protein.
The relationship between plasma estradiol and bone density is significant, with higher plasma estradiol levels associated with increased bone density. This is evident in Figure 1, which shows the effect of years past menopause on percentage increase in bone density with increased plasma estradiol levels. Similarly, Figure 2 illustrates the effect of age on percentage increase in bone density with increased estradiol levels. These findings support the hypothesis that increased plasma estradiol levels during menopause contribute to increased bone density.
that bone can be replaced in both men and women.

We gratefully acknowledge the assistance of Dr. N. C. Y. Lo, medical statistician, King's College Hospital, with the statistical analysis.

REFERENCES


Fig. 5: Effect of serum testosterone after 1 year of therapy on percentage increase in bone density at spine.

<table>
<thead>
<tr>
<th>Change in bone density (%)</th>
<th>0</th>
<th>0.5</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serum testosterone</td>
<td>15</td>
<td>10</td>
<td>5</td>
<td>0</td>
<td>-5</td>
<td>-10</td>
<td>-15</td>
</tr>
</tbody>
</table>