ogist. The program consisted of exercise reconditioning, relaxing exercises and breathing exercises. PRP was given for 24 30-minute sessions (2 sessions per week). The CG received no PRP. Characteristics of the TG are: age, 59.9 [7.8] yr, FEV$, 1123 [211] ml; IVC, 3,069 [771] ml; FEV$, % predicted, 50.2 [12.7]; IVC % predicted, 83.1 [16.8]; FEV$/IVC, 37.5 [6.6]%. No significant differences were observed between the TG and CG. Exercise tolerance was measured by an incremental symptom-limited cycle test. During this test the patients scored at each workload level their DY and LMF on a Borg scale (0 = no complaints, 10 = maximal). LMF and DY scores, given before PRP at W max are compared with the scores at this same workload level after PRP (control 0 = before PRP [ = week 0], control 1 = after PRP [ = week 12]).

**RESULTS OF TG**

Mean maximal workload (W max, cycle test) increased from 75.3 W (24.5) before PRP to 85.3 W (27.7) after PRP (p<0.05, Student's t-test). DY score for the same workload level decreased from 6.7 [1.3] to 4.9 [1.7] (p<0.005, Student's t-test), while the LMF score also decreased from 4.2 [2.0] before PRP to 1.7 [2.5] after PRP (p<0.001, Student's t-test).

**RESULTS OF CG**

No significant changes between control 0 and 1 were observed for respiration W max (68.7 W [22.6] and 70.0 W [20.0]), DY score (5.73 [2.0] and 5.80 [1.3]), and LMF score (3.46 [2.7] and 3.40 [2.4]).

**Conclusion**

After a PRP, given by a home care team, the exercise tolerance of the patients increased, while they could exercise with fewer complaints of dyspnea and leg muscle fatigue during comparable workload levels.

---

**Lung Transplantation for End-Stage Pulmonary Disease**

**Effects of Donor Lung Size on Pulmonary Function**


A stable restrictive pulmonary defect following heart-lung transplantation (HLT) has previously been attributed to the use of smaller donor lungs and an inability to generate normal negative pleural pressures following transplantation. To determine whether post-transplant lung volumes are more dependent on donor lung size or on recipient chest wall characteristics, 5 HLT and 3 single-lung transplant (SLT) patients were evaluated at intervals pre- and postoperatively in the pulmonary function laboratory. Lung vol-

---

**Table 1 — Pulmonary Function in Heart-Lung Transplants**

<table>
<thead>
<tr>
<th></th>
<th>HLT</th>
<th>Preop</th>
<th>Postop</th>
<th>Donor Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>TLC</td>
<td>4.87±0.27</td>
<td>4.14±0.25</td>
<td>7.01±0.57†</td>
<td></td>
</tr>
<tr>
<td>FVC</td>
<td>2.54±0.48</td>
<td>2.49±0.26</td>
<td>5.35±0.42†</td>
<td></td>
</tr>
<tr>
<td>FV/L</td>
<td>1.96±0.50</td>
<td>1.96±0.27</td>
<td>4.44±0.33†</td>
<td></td>
</tr>
</tbody>
</table>

†p<0.05 by Student's t-test compared to other values.

---

**Single-Lung Transplantation in Hyperinflated Patients**

H. Mal, M.D.;* B. Andreassian, M.D.; and R. Buriente, M.D.

Since March 1988, 6 patients (5 with panacinar emphysema, 1 with histiocytosis X), mean age 55±8 SD years, with severe hyperinflation (mean TLC 180±30% predicted) underwent single-lung transplantation. All of them were at the end-stage of their disease, as evidenced by extremely severe dyspnea at rest, a walking perimeter of less than 50 meters, and the need for continuous home oxygen therapy. All were severely obstructive with a mean FEV, of 18±6% of predicted. Single-lung transplantation was performed without extracorporeal circulation. All the patients could be extubated within 24 hours following the surgical procedure. Immediately after surgery, immunosuppressive treatment was started. Two patients died between 6 weeks and 8 weeks after surgery, one from severe cytomegalovirus pneumonia and the second from status epilepticus complicated by cerebral edema. The 4 remaining patients are still alive 3 months to 10 months after transplantation. In these four patients, arterial blood gases were significantly improved at rest, PaO₂ amounting to 83±3 mm Hg as compared to 49±5 mm Hg before surgery. FEV₁ also significantly improved from 18±3% to 40±3% (p<0.001) before and

---

*From the Multi-Organ Transplant Center, Methodist Hospital and Baylor College of Medicine, Houston.

**Aspen Lung Conference: Chronic Respiratory Failure**

1108

*From the Service de Pneumologie et Réanimation et Service de Chirurgie Thoracique, Hôpital Beaujon, Clichy, France.