

## Surgical Treatment of Chronic Lymphedema of the Extremities

S. Sakaguchi, M. D.

II, Department of Surgery, Hamamatsu University School of Medicine, Hamamatsu, Japan

### Summary

Results of various surgical treatments for chronic lymphedema of the extremities were described. None of the procedures was ideal, unfortunately. Advance in this field is expected.

Chronic lymphedema of the extremities has been thought to be an incurable disease for a long time. Recently, however, pathogenesis of the disease is being elucidated with the development of lymphography and then possibilities of various surgical procedures which entirely differ from the old one have been suggested.

We experienced 93 patients with chronic lymphedema of the extremities and applied those procedures to 27 cases of them.

Lymphadeno-venous anastomosis, one of the reconstructive surgery for the lymphatic obstruction, has been performed to 7 cases. Follow up studies revealed that only 2 cases have satisfactory results, while edema aggravated in 3 cases and occlusion of the vein at the site of anastomosis was observed in 2 cases.

The same procedures using popliteal vein or inferior caval vein were experimentally made in dogs. Pinpoint openings were observed at the inner surface of anastomosed vein in 5 of 13 cases 2 to 3 weeks after the operation. However, several examinations using isotope, X-ray or histopathological method failed to reveal actual lymph flow through the openings.

In the rest of the cases, lymphovenous anastomosis was occluded by thrombosis or covered by endothelial proliferation. From these clinical and experimental results, effect of the lymphovenous shunt operation should not be too confident.

In a case with Chylous reflux of right lower extremity, the pelvic lymphatic channels which were enormously dilated were ligated and removed. Postoperative improvement of edema of the diseased limb was observed for certain period. It is noticeable that there is some indication of this surgical procedure for some of the lymphedematous limb.

Buried dermal flap operations (*Thompson*) has been attempted in 13 cases. As shown in the table, follow-up studies revealed that edema of the limb reduced in all cases. In all of 3 cases to which <sup>198</sup>Au skin clearance were tested, the postoperative improvement was ascertained. In 7 cases suffered from several attacks of cellulitis, the attack disappeared completely or reduced markedly after the operation. According to our criteria, good-6 cases, fair-4 and poor-2 were counted as a long term result of this surgical procedure. However, indication of this operation should be limited only for cases with severe edema resulting reduction of the limb function, or cases suffering from frequent attacks of cellulitis, because the cosmetic discomfort due to skin necrosis, lymphoorrhoe and keloid formation was frequently seen after the operation.

Table 1 Follow up results of the dermal flap operations

Pat. No.	limbs	diagnosis	pre op. circum†	observation Y ~ M	post op. circum†	reduction	cellulitis pre post	complication	criteria
1	LLo	secondary	37 cm	2 ~ 4	32 cm	5 cm	++ +		good
2	LUp	secondary	33 cm	1 ~ 0	28 cm	5 cm	+++ -	lymphorrea	good
3	LLo	secondary	46 cm	2 ~ 0	40 cm	6 cm	+++ +	skin necrosis	good
4	RLo	secondary	40 cm	2 ~ 5	39 cm	1 cm	+++ -		good
5	RLo	secondary	46 cm	1 ~ 0	45 cm	1 cm	- -	lymphorrea	poor
6	LLo	secondary	46 cm	1 ~ 0	42 cm	4 cm	- -		fair
7	LLo	secondary	35 cm	0					unknown
8	RUp	primary	26 cm	1 ~ 0	23 cm	3 cm	- -		fair
9	LLo	primary	45 cm	2 ~ 10	40 cm	5 cm	++ +		fair
10	LLo	primary	49 cm	0 ~ 9	46 cm	3 cm	+ +	lymphorrea	fair
11	RLo	primary	43 cm	0 ~ 9	43 cm	0 cm	+ -		poor
12	RLo	primary	49 cm	3 ~ 0	32 cm	17 cm	- -	skin necrosis	good
13	RUp	primary	29 cm	3 ~ 6	23 cm	6 cm	- -		good
MEAN			44.4 cm	1 ~ 10	39.9 cm	4.7 cm			

S. Sakaguchi, M. D., II. Department of Surgery, Hamamatsu University School of Medicine, Hamamatsu, Japan