

continued from previous page and Johnston incised her neck and inserted a silastic catheter into the facial vein, threaded it into the jugular vein, and down into the tip of her atrium. Since Judy was to use this line herself, they tunneled the other end of the line underneath her skin down to and out her chest. That was her first permanent line, and it became known as the "Langer Line."

Judy was stable enough on Jan. 12, 1971 to undergo a liver biopsy. Her liver showed mild, triadial inflammation, chronic pericholangitis, and occasional focal necrosis, but no fatty changes—this after three weeks of starvation and then three months on TPN with Intralipid.

Jeej again tested in early March the validity of the idea that fat fattens the liver. This biopsy revealed triadial inflammation and fibrosis hemosiderosis, but again no fatty changes.

Shortly after this promising biopsy, Judy's serum triglyceride levels rose. Jeej removed the Intralipid immediately and replaced the lost calories with dextrose. Yet the problem continued.

Jeej recalled: "at first, we didn't know what it was due to. Then we found that it was because her thyroid was becoming underactive."

He hadn't known that Judy had had her thyroid irradiated the August before she'd come under his care. Upon learning of this, he added L-thyroxine to her TPN; her weight and serum triglyceride levels dropped.

He decided not to restart the Intralipid, though. This led to the opportunity to compare the effects of fat versus carbohydrates on the liver.

Judy and Cliff's spirits lifted at Easter when they learned that death had been overcome. Now, Jeej told them, it was time to develop a home form of TPN. And, as well, since she could never eat again, Judy needed to learn how to be around people while they were eating.

He sent Judy and Cliff down to the cafeteria for her "eating therapy." Judy shuffled into the cafeteria in night clothes, pushing a pole laden with clanking bottles. The patrons stared at this apparition, and a horrified cafeteria staff shooed them out.

Judy and Cliff marched back up to the ward and recounted her treatment to Jeej. "Jeej phoned down and straightened them out in a hurry," Cliff said. And so back down they went.

It was difficult. The patrons gawked, and the food—yes, even cafeteria food—whetted her appetite. But she declared: "I'm going to have to watch people eat all my life, so I might as well get used to it now."

Jeej believed that since one doesn't eat constantly over 24 hours, one shouldn't be on TPN for that long. The first step to reducing her time "on line" was to disconnect her Langer Line from her TPN. They succeeded eventually and this allowed Judy to take a short, unencumbered walk for the first time in months. She felt fatigued from such a brief journey, but elated at the possibility of going home.

They next devised a pump system in which each of the three intravenous bags sat in 1,000 cc blood pressure cuffs hooked up to a tank of pressurized air. The pressure from the tank inflated the cuffs and pushed the fluid out of the bags. When one bag emptied, the next one automatically started flowing, until all three were emptied into Judy's Langer Line.

Not only did this system speed up the infusion rate, but it also posed no danger of introducing air into her line. Gradually, Judy's infusion time dropped from 24 hours to 10.

To help her adapt to the home TPN apparatus, Dr. John Zohrab, gastroenterology resident and core team member, named it "Lester." Judy welcomed Lester as her nightly companion—it was a lot better than "pushing up daisies," as she put it to a *Toronto Star* reporter later. The final step entailed her watching and listening carefully as the nurses, led by Little, taught her the mechanics of feeding herself.

As the discharge date drew near, Judy confided her fears to Little. They spoke for hours about adjusting to life at home on TPN; about doing it alone, without the nurses nearby; about whether, with a G-tube and the Langer Line sticking out of her, she would still be attractive to Cliff.

Cliff also confided in Little. He dreaded pulling Judy's line out while sleeping next to her. But the thought of her back at home propelled both of them through their fears.

(Next week: going home, and some remarkable discoveries about TPN.)

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