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Tracheal transplantation

In September 1992 I was awarded the 1-month grant from the European Society for Organ Transplantation to study the problem of tracheal grafting at the Institute for Surgical Research in Munich. The project I worked on was "Epithelization of tracheal substitutes in cases of extended tracheal resections". The aim of my visit to the institute was to learn the method of isolation of respiratory epithelial cells. Under the guidance of Prof. C. Hammer and with the help of Dr. J. Bujia (ENT-department, Klinikum Grosshadern) I elaborated the method of isolating respiratory epithelial cells from the tracheal mucosa of pigs, rabbits and rats. This method is based on that described by Gerhardt [1] for isolation of human respiratory epithelial cells from ethmoidal mucosa. Certain modifications of Gerhardt's method were elaborated for each of the species.

In the process of investigation, the suspension of respiratory epithelial cells was achieved. Vitality of the

isolated cells, checked by trypan blue exclusion, was about 95%. Some of these cells were plated on plastic at 37°C in Dulbecco's modified eagle's medium with an antibiotic admixture of 40 µg/ml rifobacin. The majority of the epithelial cells attached to the plastic within the 1st 24 h. Toward the end of the 1st week, they formed a confluent monolayer. The medium was changed twice per week. From the 10th day, signs of degradation of the monolayer appeared. On the 14th day, smears were prepared from these cells and investigated for cytokeratins (results are not yet ready).

In conclusion, I can say that the time spent in the laboratory of Prof. C. Hammer was very useful and worthwhile, with interesting work and fruitful discussions. Certain points of cooperation between the Institute for Surgical Research (Munich) and the National Research Centre of Surgery (Moscow) were defined and direction of joint investigations were outlined.