had a slow transferrin variant (D_1) and five out of 450 Swedes had a fast variant (four B_2 and one B_1).

We have extended this work on populations to cover samples from different parts of Sweden. In ten samples, with a total number of 1,173 individuals, we found 16 individuals with a transferrin pattern deviating from the normal transferrin type. Twelve were B_2C, two were B_1C and, finally, two had the type CD_1.

The CD_1 individuals were both from south Sweden, and thus not from areas that could be suspected to contain Lappish influence. Hence both fast and slow transferrin variants may normally occur in white people, although the fast variants (especially B_2) are prevalent.

Further anthropological and genetical work is in progress.

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IMMUNOLOGY

Prevention of the Second Set Reaction by Extirpation of the Regional Lymph Nodes and Splenectomy

Immunity against homografts can be adoptively transplanted by cells from the regional lymph nodes or from the spleen[1]. This leads us to believe that antibodies produced by tissue incompatibility are produced only in these tissues. Extirpation of the regional nodes on the side of the graft only prolongs the survival of the homograft because of the temporary interruption of the lymphatic connexion[2–5]. According to Streicher and Herion, splenectomy in no way influences the survival of grafts[6]. In our experiments we investigated the survival-time of secondary grafts following extirpation of regional lymph nodes on the side of the primary graft, and following splenectomy.

The experiments were performed on Chinchilla rabbits weighing 2,000–2,500 gm. On the left ear we transplanted a homoplastic full-thickness skin-graft 2 × 2 cm. Three weeks later we transplanted a skin graft of the same size from the same donor on to the right ear of the host. In each group there were 20 animals (10 donors and 10 hosts).

In the first group we recorded the survival-time of the primary and secondary graft without any further procedure. In the second group we performed a laparotomy to ascertain the influence of surgical trauma on the survival of the secondary graft. In the third group we extirpated the regional lymph nodes on the left side of the head and neck, draining the site of the primary graft. In the fourth group we extirpated the regional lymph nodes of the host and performed a splenectomy. In all groups the regional lymphatic system on the side of the secondary graft was intact.

Table 1. Survival of Skin Grafts on a Rabbit's Ear under Various Experimental Conditions

Treatment	Time to necrosis (days) Min.	max.	Average
Control: Primary graft	10	13	11·4 ± 0·5
Secondary graft	5	6	5·4 ± 0·3
Laparatomy	5	7	5 9 ± 0·4
Extirpation of lymph nodes	7	9	8·1 ± 0·6
Extirpation of lymph nodes and splenectomy	17	21	19·8 ± 1·1

The results achieved in all the groups are summarized in Table 1. The secondary graft was rejected in the first group on the 5th or 6th day as compared with the primary graft, which was rejected between the 11th and 13th day. The laparotomy in the second group influenced the survival very slightly and the secondary graft was rejected between the 5th and 7th day. In the third group, following extirpation of the regional lymph nodes, the secondary graft survived 7–9 days, and in the last group, following extirpation of the regional lymph nodes and splenectomy, the survival of the secondary graft was prolonged to 17–21 days.

These results indicate that the secondary graft from the same donor following extirpation of the regional lymph nodes draining the site of the primary graft, and following splenectomy, behaves in the same way as the primary graft. The prolonged survival above the values of the primary graft (11–13 days) may be explained by the influence of corticoids which prolong the survival of primary homografts. This has been shown by a number of workers (see, for example, refs. 2 and 3). The conclusions of this work are also corroborated by the insignificant prolongation of the survival of the secondary graft after laparotomy, since corticoids have only an insignificant influence on the survival of the secondary graft.

The extirpation of the regional lymph nodes by themselves was able to prolong the survival of the secondary graft to a certain extent, but could not prevent the second set reaction completely. This was possible only after the extirpation of the regional lymph nodes and splenectomy. On the basis of these results we may conclude that immunity to transplantation is produced almost entirely in the regional lymph nodes and in the spleen.

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Iso-Immunization following Skin Homografting in Man

Krefft's[1] demonstration of blood group substances in aqueous extracts of human hair first suggested their possible existence in human skin epithelium. Coombs[2] and Nelken[3] and their co-workers, and afterwards Szulman[4] were able to establish definitely their presence in human skin by techniques dependent on the immunological reactivity between iso-agglutinins and their respective α- or β-epithelial cell agglutinogens.