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# ANTISENSITIZATION IN THE CASES OF ORGAN TRANSPLANTS

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ABSTRACT.

Author describes the possibility of antisensitization concerning ovarian and tubal transplantation in women. Neither clinical nor laboratory signs were found until 9 months after the operation.

TRANSPLANTATION, DEEP-FREEZING, ANTISENSITIZATION.

The use of organ extracts as therapeutical agents has been known for a thousand years, but successful results using this treatment have become known only during the past twenty years. Organs and organ extracts transplanted or implanted could sensitize the recipient. How high the sensitization effect is, and how effective immunosuppressive drugs are, will differ individually. Until now, it has not been possible to calculate the relation of quantity and quality of immunosuppression and necrosis of either the transplant or the implant. But there are two methods without difficulties. The desensitization and antisensitization which were not used in the organ transplantation. Desensitization (i.e. using the patient's own blood) is one of the simplest methods giving the least complications, in present day medicine. Antisensitization differs from the above mentioned method in that the antibodies in the blood of the patient will be transformed in vitro to antigens by a serum activator. This is a colloidal complex compound of aluminium hydroxide, silicic acid and stabilised by the addition of phenol. Different solutions will be administered to the patient either subcutaneously or intramusculary - five times or more is necessary.

## MECHANISM OF ANTISENSITIZATION.

If the blood of a patient contains disease-specific factors they can be used to trigger a process of counterreaction via immunological mechanisms of antibody formation. Pathogenic or allergic antibodies are transformed in vitro into fully antigens which reinjected produce either blocking anti-

bodies or might suppress hyperergic reactions on the level of the antibody-producing cells.

TECHNIQUE.

2 - 3 ml blood well mixed with 5 - 6 ml of 0,5% sodium citrate dissolved in aqueous solution. Mix this until osmotic haemolysis occurs. Add 2 ml of serum activaotr and mix again. Stire in a closed glass vessel below room temperature. This stock solution should then be diluted in the following ratios:

| | | | |
|---|---|---|---|
| 1 | : | 100 | $10^{-2}$ |
| 1 | : | 10.000 | $10^{-4}$ |
| 1 | : | 1.000.000 | $10^{-6}$ |
| 1 | : | 100.000.000 | $10^{-8}$ |
| 1 | : | 10.000.000.000 | $10^{-10}$ |

The dosage dilution will differ according to the individual patient (c.f. see below).

ORGAN TRANSPLANTATION.

After successful use of desensitization and antisensitization in fresh cell therapy (used e.g. in cases of impotentia coeundi and generandi, oligomenorrhea etc.) I decided to use it in organ transplantation. This seems a better method than the use of immunosuppressive drugs which may have harmful side-effects. When using immunosuppressive material there is always the possibility of chromosome damage. This is too great a risk in the transplantation of genetic organs.

In the cases of ovary (three) and Fallopian tube (four) transplantations, I antisensitized in the following way.

THE TREATMENT.

The treatment begins on the 3rd post-operative day. The patients receive 0.2 ml subcutaneously of the dilution $10^{-10}$. On the next day 0.4 ml of the same dilution. On the 5th day 0.2 ml and on the 6th day 0.4 ml of $10^{-8}$. On the 7th day 0.2 ml of $10^{-6}$. On the same day new serum with activator will be prepared. On the 8th day 0.2 ml of the new dilution $10^{-8}$, on the 10th day 0.2 and on the 12th 0.4 of $10^{-6}$, on the 14th day 0.2 of $10^{-8}$. From the 16th day on for two weeks 0.4 ml of $10^{-8}$ every third day, then every fourth day the same dosage, and finally once weekly.

The patients with ovarian transplants were treated this way for four weeks postoperatively, the patient of the first tubal transplantation for 2 months, the others for three. The duration of the treatment is dependent on clinical and laboratory reactions controlled by leucocyte, blood smears,

electrophoresis, immune-electrophoresis and RR, in the first weeks on every second day, later or once weekly. The first of the ovarian transplants functions just 14 months, the second 9 months, the third is only four months old. The Fallopian tube transplantations are 12, 11, 8 and 5 months old. The patients are controlled by salpingography. Until now, neither clinical nor laboratory tests showed signs of tissue necrosis.

The seven cases mentioned are insufficient to substantiate this method as the best therapy, but it is quite possible that anisensitization is the method of the future.

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L'autore descrive la possibilità di una antisensitivizzazione nel trapianto ovarico e tubale nella donna. Non furono repertati segni clinici o di laboratorio fino a 9 mesi dopo l'intervento, relativi a eventuale sensitivizzazione.

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