

From the Department of Dermatology, University Medical School,
Zürich (Director Prof. H. Storck M. D.), Switzerland.

CO-SEASONAL DESENSITIZATION OF
POLLINOSIS WITH
THE SCARIFICATION-METHOD OF
BLAMOUTIER

By

H. EICHENBERGER & H. STORCK

There are several methods to combat the distressing symptoms of hayfever and hayasthma. In this paper we have set ourselves the task of outlining and evaluating the various methods of desensitization which, according to our experiences, can be attempted to alleviate hayfever and hayasthma patients. Special attention is given to co-seasonal desensitization with the scarification method of Blamoutier.

SEVERAL METHODS OF DESENSITIZATION ARE
AT OUR DISPOSAL

1) *Classical desensitization*. Begun 3-4 months prior to the pollen season with subcutaneous injections thrice weekly in increasing doses. Followed up by a booster dose at intervals of 1-4 weeks for 2-3 years. According to our results the success of this method of treatment lies between 50-70 per cent.

2) *Rush desensitization* (Freeman (3)). This is carried out just prior to the pollen period. Patients are taken into the clinic for 8-10 days. They receive 6-8 injections at two-hourly intervals in increasing doses daily. Again followed up by booster injections for 2-3 years. Our results show a good response in 40-60 per cent.

3) *Desensitization with depot-allergens*. This is carried out with various products, in the United States with alum precipitated pyridine extracts. Up to date we have little personal experience with this method.

These three methods if carried out with too high a dose of extract, can result in local as well as general side-effects. If too weak a dose is given the results are unsatisfactory. The doctor's skill lies in administering the optimal dose.

Here we would like to elaborate on a fourth method of desensitization, namely the co-seasonal relatively simply performed scarification method of *Blamoutier*.

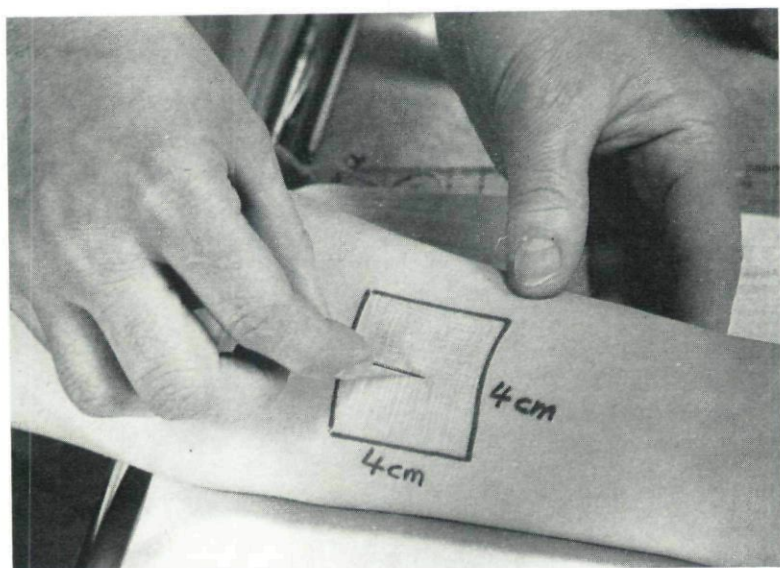
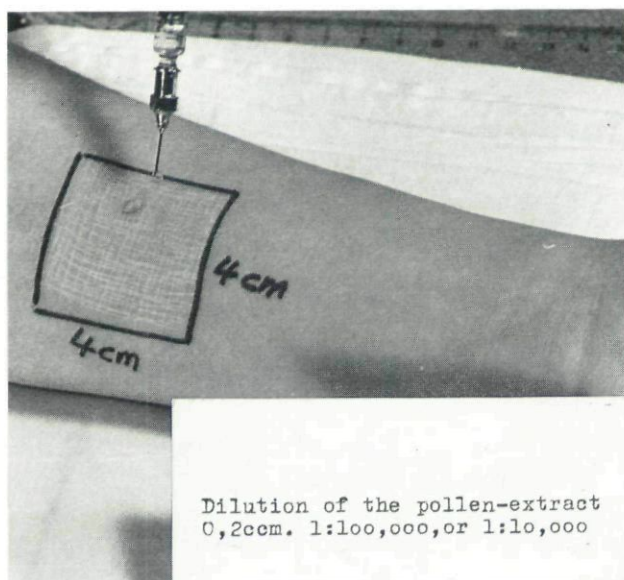
In 1959 the French allergist *Blamoutier* (1) wanted to give relief to hayfever patients who came for treatment only during the pollen season. He apparently succeeded by carrying out a networklike scarification on the upper extremity, applying the allergen-extract, with resulting wheal formation. Since 1962 we have carried out this co-seasonal desensitization therapy in some of our hayfever and hayasthma patients. The method will be described and the results given.

The method is as follows: It is started as soon as the seasonal symptoms begin. The scarification is repeated, as soon as the symptoms reoccur. The intervals of treatment are as a rule on a week but may vary between 3 days and 3 weeks. On the average 6-12 treatments are required every pollen season

Technically the following procedure is involved: On the proximal volar aspect of the lower arm, in a square area of 4×4 cm, chessboard-like horizontal and vertical scratches are made (approx. 20) with a needle at a distance of 2 mm (Fig. 1). These scratches should be superficial and not cause bleeding. The pollen-extract, *i.e.* 0.2 ccm of a dilution

Figs. 1 and 2

show the technique of scarification and application of allergen on the scarified skin.

*Fig. 1.*

Dilution of the pollen-extract
0,2ccm. 1:100,000, or 1:10,000

Fig. 2.

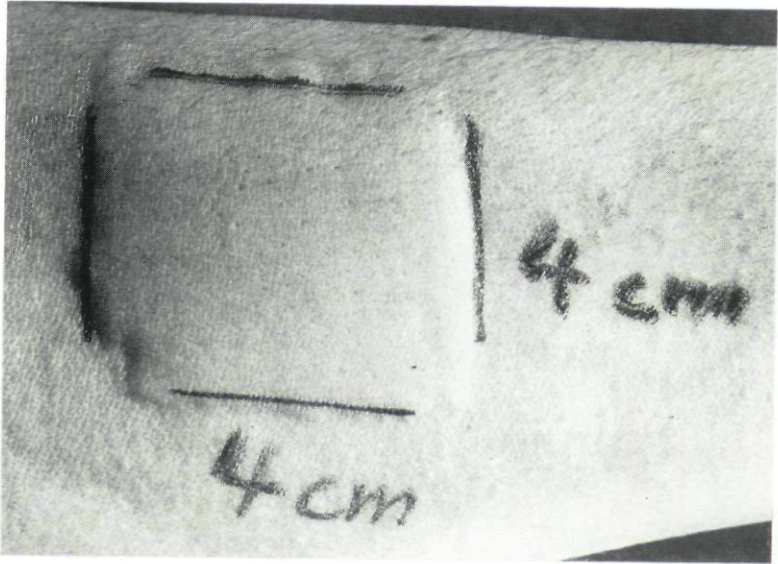


Fig. 3

shows a positive response with wheal formation in the scarified area.

TABLE 1

Early-season pollen-extract	Late-season pollen-extract
Grasspollen mixt., treepollen mixt., prunus, dock, wheat, la- burnum, appleblossom, forsythia, dandelion, larch, acacia, lilac, chestnut, narcissus, primrose.	Grasspollen mixt., treepollen mixt., brome grass, giant stipa, annual sage brush, clover, aster, rose, sunflower, goldenrod, linden, elder.

1:100.000 or 1:10.000 is applied drop by drop on the scarified skin and spread out on the assigned area (Fig. 2). For our purposes, we have mixed an early-season and a late-season pollen-extract, which is used according to season (Table 1).

With a positive response, a wheal-like plate forms in the corresponding area within 10–20 mins. (Fig. 3). In the years

1961-1964 we rarely saw side effects. Sometimes a transitory increase of nasal discomfort occurred. In these cases the following dose must be diluted 10-fold. Even the very sensitive asthma patients showed no signs of increased asthma or other side-effects which occasionally occurs with patients undergoing treatment with classical desensitization method. Pregnant patients showed no increased discomfort or side-effects.

As in all methods of testing or desensitization there is always a tray with adrenalin, antihistamines and watersoluble steroids within reach to meet all cases of emergency.

TABLE 2
*Results of Co-seasonal Desensitization with the
Scarification Method of Blamoutier.*

Year	No. of cases	Considerable improvement complete relief	Little improvement no relief
1961	42	35	7
1962	72	57	15
1962	60	52	8
1964	141	118	23

The results of treatment with the scarification method of *Blamoutier* (1, 2) which we carried out during the pollen seasons 1961-1964 are shown in Table 2. Considerable improvement, complete relief signifies an abatement or even complete disappearance of symptoms during the treatment or some hours to 24-hours later. This state lasting from 3 days to 3 weeks. Patients who responded inadequately to classical or rush-desensitization, were treated with the scarification method, some with success as Table 3 shows.

Considering the relatively good results, it seems worth while to try this easy and safe method of desensitization. Should there be no response, classical desensitization or desensitization with the new depôt allergens can be carried out

TABLE 3
*The Scarification Method with Patients who did not Respond to
 Classical or Rush-Desensitization (1964).*

	No. of cases	Scarification method good response	Scarification method no response
Classical desensit. (no response)	29	19	10
Rush-desensit. (no response)	7	6	1

TABLE 4
Results of the 3 Main Methods of Desensitization (1964).

Method	No. of cases	Considerable improvement complete relief	Little improvement no relief
Classical	135	79 (58 %)	56 (42 %)
Rush	28	14 (50 %)	14 (50 %)
Blamoutier	141	118 (84 %)	23 (16 %)

for the following pollen season, the latter requiring fewer injections.

Table 4 gives the results achieved with the classical, rush and scarification-method of desensitization carried out in the pollen season 1964. We are quite aware of course how difficult it is to assess such results objectively.

The exact mode of mechanism of the scarification method is still unsolved. To find out whether the resulting protection by this method is possibly nonspecific and produced by histamine or by a component of another compound of the antigen-antibody complex, 30 patients were treated with histamine in the same manner, mostly with a dilution 1:10,000. In some patients no marked difference in response was noted whether pollen-extract or histamine was applied to the scarified skin. In others, the effect of histamine was not con-

vincing. The fact that patients reacted just as well, or even better to an early pollen-extract during the late pollen season supports the view of an unspecific reaction.

Specific desensitization is a valuable asset to the treatment of pollinosis. According to the status of the patient, time of commencement of treatment and relating circumstance, one of the 4 mentioned methods of desensitization can be chosen. The scarification-method of *Blamoutier* is an easy safe method of treatment which can be carried out during the pollen season, and which according to our observations gives quite good results.

SUMMARY

A short account is given of the co-seasonal scarification method of desensitization of *Blamoutier*. The results with this method as carried out in the department of dermatology of the university medical school of Zürich were found to be good.

REFERENCES

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3. *Freeman, J.*: Lancet, 744, 1930.

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