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RAPE POLLEN ALLERGY

Report of a Case

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In 1948 *Juhlin-Dannfelt* published his investigation of the occurrence of different types of pollen allergy in Sweden. According to *Urbach* (1937) and *Hansen* (1940), certain regions of Europe have only one pollen season. *Juhlin-Dannfelt* showed that there are two pollen seasons in Sweden, one in spring in which catkin bearing trees play an important role, and the other in June and July, months in which the grass pollens predominate. *Juhlin-Dannfelt* also reported hypersensitivity to other types of pollen, especially from some *Compositae*, particularly the oxeye daisy. He also described isolated instances of allergy to pollen from the genera of *Taraxacum*, *Rumex*, *Plantago* and *Chenopodium*.

Recently a man presented himself at the department of allergy complaining of asthma and pollinosis, which on investigation proved to be due to hypersensitivity to rape pollen. As a search of the literature failed to reveal any reports of hypersensitivity to pollen from plants belonging to the *Cruciferae* family, a brief description of the case observed was considered justified.

CASE REPORT

The patient (G.N. 354/53, department of Medicine, University Hospital, Lund) was a farmer, aged 30. Investigation of the personal history of the pa-

tient revealed nothing suggestive of hereditary susceptibility to allergy. In May 1951, when the rape began to bloom, itching of the nose, increased secretion from the nasal mucosa and sneezing occurred. There was also itching and congestion of both eyes. Some three weeks later breathing was wheezy. The symptoms almost disabled the man for about a month. As soon as he went near a rape field in bloom the symptoms increased in intensity. The first year the symptoms troubled the patient at night, too. The rape field was situated only some 30 metres from his bedroom, which was on the windward side of the house facing the rape field. As soon as the rape began to bloom in 1952 the symptoms reappeared, but this time they were not so severe as before, probably due to the fact that the rape had been grown in a field some 250 metres from the house.

Cutaneous titrations with pollen extracts from timothy grass, mixed catkins and common reed were negative in concentrations up to 10^{-2} . The reaction to oxeye daisy pollen was negative up to a concentration of 10^{-3} , but $\pm$ for a concentration of 10^{-2} . But rape pollen, in as low a concentration as 10^{-6} , produced a positive reaction. An antigen concentration of 10^{-7} gave a $\pm$ reaction, but 10^{-8} gave a negative reaction.

The rape pollen extract prepared at the department of allergy of the University Hospital, Lund, was also tried on 5 non-allergic subjects and on 3 asthmatic patients.

Of these 5 patients, 4 reacted negatively to an antigen concentration of 10^{-2} . The fifth was negative to a concentration of 10^{-3} and showed a $\pm$ reaction to an antigen concentration of 10^{-2} .

Of the 3 asthmatic patients, 2 were negative to an antigen concentration of 10^{-3} , while the third showed a $\pm$ reaction to this concentration but was negative to 10^{-4} .

As shown by *Juhlin-Dannfelt* (1948) and by *Colldahl* (1952) positive skin reactions to pollen are often signs of latent allergy.

In the case under discussion provocation tests were performed on December 8, 1952. Coca's solution and rape pollen extract in a concentration of 10^{-5} instilled in the nose produced no symptoms. When a few drops of rape pollen extract in a concentration of 10^{-4} were instilled into one of the hitherto dry nostrils it produced a slight secretion. As the reaction was practically insignificant, the test was repeated but with higher concentrations. Instillation of a drop with a concentration of 10^{-2} produced a marked reaction in the form of itching, sneezing, watery secretion and conjunctivitis.

Specific treatment, started in the usual way on January 31, 1953, was at first troublesome. The injection of 0.4 ml. of a concentration 10^{-3} was followed by serous discharge from the nasal mucosa, conjunctivitis and mild asthma. The dose could, however, gradually be increased to 0.65 ml. of a concentration 1:30. This dosage level was maintained throughout the season. Last season (1953) the patient was practically symptom-free, despite the fact that rape had been grown quite close to the house in which he was living.

DISCUSSION

In this case of conjunctivitis, rhinitis and asthma due to hypersensitivity to rape pollen the exciting cause was obvious, and the skin titre was markedly positive as was the provocation test. Clinical investigation permitted a definite diagnosis of the disease, a diagnosis that was also confirmed by the excellent result of the specific treatment.

In the early stage of the investigation the symptoms were thought to be attributable to some insecticide which had been sprayed on the rape field. This possibility could, however, be excluded.

SUMMARY

A case of conjunctivitis, rhinitis and asthma is described due to hypersensitivity to rape pollen. Hypersensitivity to rape pollen (*Brassica napus*) or to pollen from any other species of the *Cruciferae* family has apparently never been described before.

Specific treatment produced a good effect.

LITERATURE

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