

Centro Antiasmatico-Antiallergico di Salice Terme (Italia)
Antiasthmatic-Antiallergic Center of Salice Terme (Italy)
(Direttore: Prof. Piero Sangiorgi)

APPLICATION OF ACTH
IN RETARD VEHICLE (ACTH RETARD) GIVEN
INTRACUTANEOUSLY IN SOME CASES OF
RESPIRATORY AND CUTANEOUS ALLERGY
AND SERUM DISEASE

By

Prof. PIERO SANGIORGI, M.D.

Twelve cases of respiratory allergy (pollinosis, bronchial asthma), six cases of cutaneous allergy (urticaria) and one case of serum disease have been treated by us, during the first months of this year, by means of an uncommon administration of ACTH Retard (Corticotropine Retard Roskilde) which, as regards the retard solution of this hormone, is in our opinion a quite new method of administration.

During the meeting of May 9, 1952 at the Société des Hôpitaux de Paris, M. Robert Debré & Coll. communicated the results obtained in six children from 3 to 15 years old, each of them receiving a dosage of 4-6-8 mg. of hormone in one intradermal injection made in the anterior part of the thigh. The injection gave an innocuous local reaction while no side effects were noted. The clinical symptoms regressed, the number of the eosinophils marked a fall from the fourth hour of a longer duration than after either intramuscular or subcutaneous administrations of ACTH in aqueous solution. In a seventh case, a 10 year old girl with rheumatic fever, no cardiac insufficiency, with high fever and conspicuous joint swelling, and to whom 100 mg. of ACTH daily gave positive

but inconstant and incomplete results, intradermal doses of 10–36 mg. only for 14 days caused a complete and rapid disappearance of the clinical symptoms. The treatment had to be suspended because of the appearance on the 15th day of symptoms of hypercorticism.

M. Debré & Coll. used ACTH powder dissolved in extemporaneous saline with no stabilizing substance and they applied this method in pediatric practice and in various diseases.

In our cases the patients treated were adults from 19 to 62 years old, showing allergic diseases with positive cutaneous tests and in whom the allergic state had been clinically proved by either the discontinuance or the disappearance of the symptomatology in connection with the approaching or the removal of the responsible substance.

As stated, we used the Corticotropine Retard Roskilde in which the retarding vehicle is a partially hydrolysed gelatine solution specially prepared. The hydrolysis is made up so that, at room temperature, the gelatine has an adequate viscosity, limpid transparence and a liquefaction point above 15° C.

As is usual in every sort of retarding solution, the administration doses of this solution of ACTH Retard are lower than the normal dosages indicated by the pharmacology. The retard solution Roskilde is administered intramuscularly, as per dosages indicated by the producing firm, that is 10 to 40 mg. a day, every second or third day. We have, however, administered intracutaneous dosages much lower, viz., 5 to 20 mg. daily distributed in 3–4 injections made one beneath the other at a distance of a few centimetres in the scapular or sub-scapular region. At the site of the injection there is formation of the usual pomphi of intracutaneous injections, surrounded by a red halo which disappears in about twelve hours.—Even the pomphi regress in about 12–24 hours, in most cases leaving a small indolent nodule which will disappear within 2–3 days.

Our twelve cases of respiratory allergy were divided as

follows: 6 patients were affected by oculo-nasal symptoms of allergy to a pollen and the remaining six patients showed an acute asthmatic syndrome. The allergic nature of the syndrome was clearly demonstrated in all these patients. None of them had received any specific desensitization. Their ages ranged from 19 to 52 years old. Two of the cases of pollinosis only were in the first year of disease, whereas the others were of more or less recent date. Among the asthmatic patients, one of them had been suffering for 20 years.

These 12 cases were treated with intracutaneous injections of 10–20 mg. of ACTH Retard, and no other treatment, once a day during the first 2–10 days and later on every second day, until the final injections every third day, administering the same dosage with a total of 75–200 mg. of ACTH for the whole treatment. When the ACTH Retard therapy was suspended, a Cortisone tablet cure was initiated by oral administration.

The 6 cases of cutaneous allergy were urticaria alone in patients 21–32 years old who had suffered for some time (5–6 months or a shorter period) and who had already been treated with other cures without achieving any satisfactory result. In none of these 6 cases it had been possible to discover a true etiological cause: the allergic nature was assumed to be the result of allergic diathesis either in the patients or otherwise in their own parents.

The result obtained by the treatment of these 18 patients with ACTH Retard can be summarized as follows:—

CLINICAL RESULTS

Immediate cessation of the symptomatology in all the 6 cases of pollinosis before changing from intradermal administration of ACTH to oral administration of Cortisone.—

Quickest ceasing of the crisis in 3 of the 6 asthmatic patients. Less rapid in the others. Disappearance of the urticaria-poussées and of the pruritus in 2 of the 6 cases of urticaria; improvement in two others and no appreciable results in the remaining ones.—

DATA ON NINETEEN ADULT PATIENTS TREATED WITH ACTH
IN RETARD VEHICLE INTRACUTANEOUSLY

No.	Pt.	Age	Sex	Diagnosis	Daily dosage	Total dosage mgm.	Reactions loc./ecn.	Eosinophil fall (pro %)	Results
1	GG	44	M	Hay Fever	15	75	None	62	Excellent
2	AD	19	F	Hay Fever	10	100	None	66	Excellent
3	PS	21	F	Hay Fever	10	90	None	69	Excellent
4	GP	41	F	Hay Fever	10	70	None	65	Excellent
5	FS	31	M	Hay Fever	15	150	None	63	Excellent
6	TR	23	M	Hay Fever	10	100	None	70	Excellent
7	PB	41	M	Asthma	20	140	None	61	Excellent
8	UB	38	M	Asthma	20	200	None	75	Improvement
9	TN	62	M	Asthma	20	140	None	68	Excellent
10	GB	43	F	Stat. asth.	20	140	None	64	Improvement
11	ED	29	F	Stat. asth.	20	200	None	74	Improvement
12	ES	48	F	Asthma	15	165	None	75	Excellent
13	NH	36	M	Urticaria	15	75	None	63	Excellent
14	IJ	54	M	Urticaria	20	200	None	65	Improvement
15	BD	43	F	Urticaria	20	200	None	64	Improvement
16	TF	39	F	Urticaria	20	200	None	71	Excellent
17	LM	45	F	Urticaria	15	150	None	65	Stationary
18	PM	21	F	Urticaria	20	200	None	68	Stationary
19	YU	27	F	Serum dis.	10	80	None	—	Excellent

FALL OF THE EOSINOPHILS

The curve of the eosinophilia carefully followed—every 2 hours—with the Nageotte cell after staining with acetone-eosin solution and converting the figures into cubic millimetres, demonstrate that the fall does not begin before the fourth hour, except one case in which it started on the seventh hour.

The fall of the number ranged between 60 % and 75 % of the pre-ACTH value, for a minimum period of 2 hours and a maximum period of 4 hours: generally the increase recommenced about one hour after the culminating point of the fall.

Therefore, to conclude, it may be stated that ACTH Retard given intradermally, in comparison with the other methods of parenteral administration of this hormone, gives the advantage of a lower dosage which sometimes reaches to even a third or a half of the normal doses; this must be looked upon as a most important advantage if we bear in mind the side-effects deriving from the circumstances in which prolonged administrations of ACTH are required, as well as in those circumstances where the hormone, even in normal doses, induces a condition of hypercorticism.

With regard to the case of serum disease treated by us by means of intracutaneous injections of ACTH Retard, it is interesting to notice that 10 mg. of hormone administered twice a day in the first 2 days of cure, and 20 mg. once a day 2 days later on, caused the complete disappearance of the syndrome which, when we started the treatment, had been of 6 days duration under the care of the attending doctor; the patient, a 27 year old woman, had received a single injection of tetanus antitoxin.

Due to insufficient time and because of the improper place, it was impossible for us to follow the eosinophil curve in this patient; the clinical conclusion, however, empowers us to pronounce favourably on the possibilities of also using ACTH Retard in serum diseases.

Author's address: Via Rivoli, 2 Milan, Italy.

This document is a scanned copy of a printed document. No warranty is given about the accuracy of the copy. Users should refer to the original published version of the material.