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THE USE OF CORTICOSTEROIDS IN COMBINATION WITH ISONICOTINIC ACID HYDRAZIDE IN THE TREATMENT OF ADVANCED BILATERAL PROGRESSIVE CAVITARY PULMONARY TUBERCULOSIS

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This is a preliminary report on a 3 months' trial of Meticorten (prednisone) and isonicotinic acid hydrazide in the treatment of a selected group of 23 patients. They were all Bantu females varying in age from 12 to 45 years, and were selected as follows: All

(*a*) had bilateral, advanced, progressive pulmonary tuberculosis with cavitation, and with gross secondary pulmonary sepsis;

(*b*) had had at least 6 months' hospital treatment (some had previous admissions dating back to 5 or 6 years before);

(*c*) were deteriorating under routine treatment;

(*d*) were gravely ill with prognoses varying from poor to extremely bad;

(*e*) were obviously unsuitable for any form of operative procedure.

Treatment consisted of:

1. Isonicotinic acid hydrazide, 15 mg./kg. per 24 hours, as the sole anti-tuberculosis therapy.
2. Continuous antibiotic and sulphonamide therapy varied according to the response of secondary organisms cultured from sputa (cultures repeated monthly).
3. Complications such as amoebiasis treated as indicated at weekly examinations.
4. Hospital diet supplemented with:
   (*a*) Extra protein in the form of a broth of protein hydrolysate and vitamin-B complex concentrate.
   (*b*) Extra vitamins C and D.
5. Haemopoietic substances and blood transfusions given as indicated by blood investigations.

(Up to this point, treatment consisted of what might have been given under existing routine hospital treatment.)

6. Meticorten, 15 mg. daily in 3 divided doses, regardless of body weight. At the end of the 3 months' trial-period Meticorten dosage was gradually reduced while ACTH was administered in increasing dosage, as adrenocortical stimulant.

The usual rest-periods were observed, but at all other times patients were allowed up at will.

The following investigations were recorded:

Daily: (*a*) temperature, (*b*) individual visits.

Weekly: (*a*) full clinical examination with systematic symptom-reports, (*b*) body weights.

Monthly: (*a*) X-ray of chest, (*b*) sputum investigation for tubercle bacilli (concentration and culture), (*c*) sputum investigations for secondary organisms.

OBSERVATIONS MADE

X-Ray of Chest (independent assessments by 3 senior physicians at the end of trial period).

Number deteriorated	Nil.
Number *in statu quo*	18
Number showing slight improvement	5

Body Weight

22 patients gained weight.

1 patient lost weight (1 lb).

Individual gains varied from 2½ to 32½ lb.

Average weight gain for 23 patients was 20 1/6 lb.

The patient who lost 1 lb. in weight had been gaining, but developed nausea and vomiting, which became less after withdrawal of sulphonamide therapy.

There was at no time any clinical evidence of electrolyte imbalance or water retention.

Sputum

1. *Laboratory.* Examination for tubercle bacilli showed that all patients remained positive.

2. *Clinical.* Observations showed the following changes:

(*a*) *Amount of Sputum* (graded as copious, moderate, minimal or nil):

8 changed from copious to moderate.
14 changed from copious to minimal.
1 changed from moderate to nil.

(*b*) *Type of Sputum* (graded as purulent, semi-purulent, mucoid or 'white froth'):

1 changed from semi-purulent to nil.
4 changed from purulent to 'white froth'.
10 changed from purulent to mucoid.
8 changed from purulent to semi-purulent.

Appetite

20 showed improvement in first week.
23 showed improvement by second week.

Subsequently, 20 had good appetites throughout, and 3 had variable appetites.

Sleep

17 recorded 'good' sleep after 2nd week.
23 recorded 'good' sleep after 4th week.

Mental Attitude

All patients showed more cheerful, optimistic outlook after the first week. It was a marked feature throughout the trial, even seriously-ill patients exhibiting an elevation of mood.

Bodily Activity

After 4 weeks, 19 were ambulant and 4 had become semiambulant. By the 6th week the whole group were no longer 'bed-patients', i.e. requiring washing or serving with food in bed.

Cough

8 showed no improvement at all.
15 showed lessening of cough, varying from marked lessening to almost complete cessation.

Chest Pain

17 reported less pain after 1st week.
23 reported less pain after 3rd week.
4 reported intermittent episodes of pain throughout trial period.

Gastro-Intestinal Symptoms

Of 7 who had originally complained of nausea, all were symptom-free within 6 weeks, but one developed nausea after 8 weeks, and lost weight as a result of this.

Menstruation

Of 14 patients who had had amenorrhoea for 3 months or more, 7 menstruated regularly after start of treatment.

Side-Effects

Moon Face: Mild facial rounding was observed in 3 patients, all of whom were under the age of 16 years. No other side-effects were noticed.

SUMMARY AND CONCLUSIONS

A 3 months' trial of isonicotinic acid hydrazide and 'Meticorten' (prednisone) therapy on 23 patients with advanced, bilateral progressive cavitary pulmonary tuberculosis and poor prognoses, is described.

During the period of the trial no patient died although a fatal outcome would have been anticipated in the majority of cases of this type.

All patients exhibited marked clinical improvement.

All but one showed satisfactory weight gains.

On independent radiological assessment no patient showed further deterioration and 5 actually showed slight improvement.

All sputa remained positive for tubercle.

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