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A NOTE ON THE USE OF MARMITE IN TROPICAL MACROCYTIC ANÆMIA, INCLUDING PERNICIOUS ANÆMIA OF PREGNANCY

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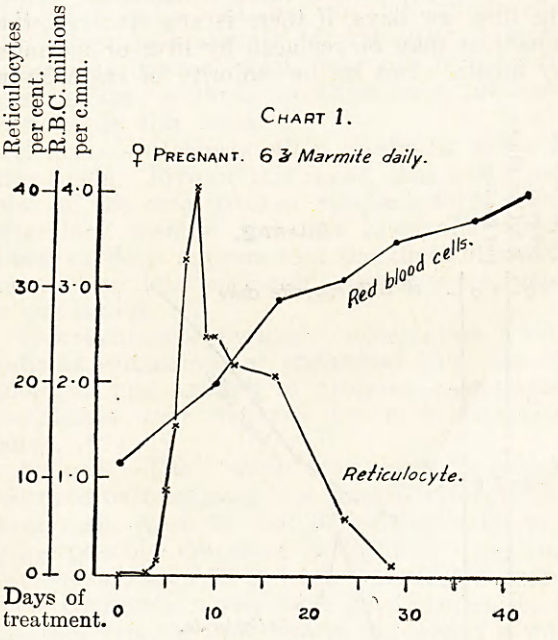
IN an earlier paper the use of *Marmite,* a yeast extract, in the treatment of tropical macrocytic anæmia was reported (Wills, 1931). Since this publication other workers have recorded varying results with this line of treatment. Vaughan and Hunter (1932), Goodall (1932), and others have reported success both in macrocytic anæmia in cases of idiopathic steatorrhœa, and in certain cases of true pernicious anæmia. Mudaliar (1932) reports unfavourably from Madras, Green-Armytage (1932) favourably from Calcutta. Unpublished figures from other parts of India are favourable.

In a paper to be published shortly a full account of the treatment of this anæmia will be given, but as further trials have confirmed my previous findings as to the curative action of this preparation, the following notes as to its use and limitations may be helpful to other workers, wishing to make a trial of this remedy.

1. It is essential that the diagnosis of pernicious anæmia of pregnancy or tropical macrocytic anæmia should be made on an accurate examination of the blood picture. Experience in Bombay suggests that both marmite and liver extract are used very frequently in microcytic secondary anæmias, mistakenly diagnosed as pernicious anæmia on the clinical picture.



Negative results are regarded as evidence of the uselessness of these remedies, a revision of the diagnosis being but rarely considered.

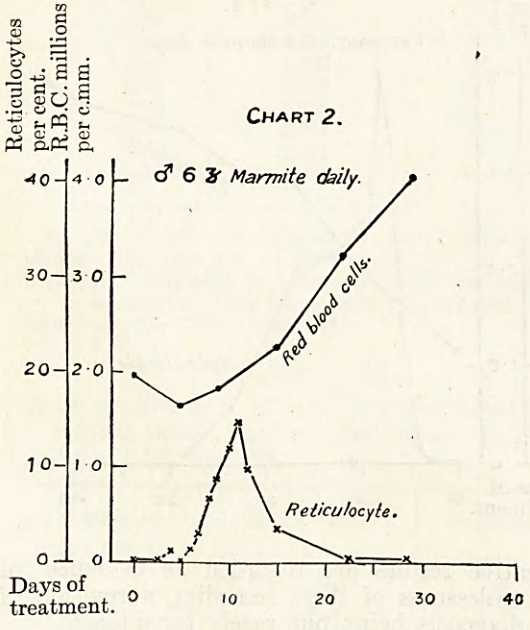
2. Sepsis as a complication must be excluded, and this applies particularly to post-delivery cases, as severe sepsis is well known to inhibit the hæmopoietic effect of both liver extract and marmite.

3. If the response to treatment is to be judged by the reticulocyte rise, reticulocyte counts must be made daily from the third to the tenth day. One worker who reported unfavourably on the curative action of marmite on this basis, in a personal communication said that the reticulocyte count had been made only on or about the tenth or fourteenth day.

4. Marmite to be active must be used in adequate doses and it is essential to see that the dose prescribed is both given and taken. Again from experience in Bombay hospitals, the need for personal supervision in this respect is stressed. In severe cases I am now giving two-drachm doses three times a day. Goodall's patients took half an ounce, three times a day. Vomiting rarely occurs if the medical adviser personally sees that the dose is properly given. Diluted with three or more ounces of iced water, with ice or sour lime to suck immediately after, it rarely causes nausea, especially if the patient is reassured. Given as a soup, with

the addition of some vegetable or meat stock, well flavoured to taste, many patients like it and find it appetizing.

5. In desperately ill cases, when digestion and absorption are very greatly reduced or absent and time is of the greatest importance, the best line of treatment is intramuscular or intravenous injections of liver extract combined when possible with a small transfusion. After the first few days, if there is any response, the injections may be replaced by liver or marmite by mouth. But in the majority of cases, even



those with counts as low as one million, the response to marmite in adequate doses is so rapid that the more expensive treatment is rarely necessary.

6. A few cases may not respond to treatment with marmite, when it may be assumed that the intrinsic factor of Castle (1929 and 1930) is missing. Such cases are extremely rare in Bombay; hidden sepsis is a far more frequent cause of failure.

The response to treatment in two typical cases is shown in the accompanying charts.

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INTENSIVE IRON TREATMENT OF ANÆMIA IN A TEA-GARDEN LABOUR FORCE*

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PRACTICALLY all anæmic patients are treated as in-patients. On the day of admission oil of chenopodium is given, which is repeated once weekly so long as the patient is in hospital. The iron treatment (ferri et ammonii citras) is started from the second day and continued until the hæmoglobin value of the patient's blood is 60 per cent. or higher.

We gave one drachm of sodii sulphas along with each dose of iron in a mixture to counteract constipation, but sometimes bigger doses of sodii sulphas are required. Purgatives can also be given separately, when necessary. In fact, a saline aperient is an essential accompaniment of this treatment. Other conditions were treated symptomatically as they arose.

Altogether 80 cases were treated. In order to study the effect of various doses they were divided into three groups. The first group consisted of 9 patients getting at the start a daily dose of 60 grains of ferri et ammonii citras, which was gradually increased to 90 grains daily. The second group consisted of 18 patients getting at the start a daily dose of 60 grains, which was gradually increased to 120 grains daily. The third group consisted of 53 patients getting at the start a dose of 90 grains daily, which was gradually increased to 120 grains daily. The hæmoglobin estimations were made by Tallqvist's scale. The details are shown in table I.

TABLE I

	Group 1	Group 2	Group 3	Average of 3 groups
Number of cases treated.	9	18	53	..
Average time on the anæmic list in months.	15.7	13.6	5.8	11.7
Average daily dose in grains.	70	94.2	97.3	87.2
Average hæmoglobin percentage on admission.	30	33.9	45.1	36.3
Average hæmoglobin percentage on discharge.	60	60.8	63.3	61.3
Average length of treatment in days.	28.4	18.8	10.8	19.3

The following facts emerge from the above table :—

(*a*) The chronicity of the cases.

(*b*) The low level of hæmoglobin percentage on admission.

*Rearranged by editor.