ENDEMIC GOITER IN NEPAL

State of Israel
Ministry of Commerce and Industry

Jerusalem / Dec. 30, 1970

Editor,
Journal Nepal Medical Association
Siddhi Sadan, Exhibition Road
Kathmandu,
NEPAL

Dear Sir,

I refer to the article "WHO Goitre Team" published in JNMA 7, 47 (1969).

While serving the "Food and Agriculture Organization" of the United Nations, as Food Microbiologist and Food Consultant to the Nepal Government- Food Research Laboratory, I happened to learn of the endemic goitre prevailing in several areas of Nepal and Northern India.

By reading the referred article and being a Biochemist and Biotechnologist, I came to the conviction that the goitrogenic substance which mustard- and rape products contain (Sinigrin, Sinalbin, Progoitrin, Glukonapin and others), is connected with the intensive endemic goitre in Nepal.

According to my knowledge these goitrogenic substances hydrolysed probably by the intestinal bacteria in animals as well as in human or by the cooking process, from the unsaturated compounds, which combine with the iodine, blocking and impairing the utilization of iodine by the thyroid gland producing goitre.

This reaction turns inefficient the supply of iodine through water or iodised salt, which fails to prevent development of goitre and explains the fact, that, although iodised salt is supplied already for some time in this country, goitre is still endemic and reaches in some areas over 90%.

There are known to me experiments in which, milk of cows fed with mustard, and rape seed oil cakes, contained goitrogenic substances and produced goitre in experimental animals.

I am not sure how an excess supply of iodine will effect goitrogenesis, but mustard and rape seed cakes, their unrefined oils and leaves forming a staple feed and foods in this country should be freed of these toxic substances.

Based on this assumption, the following have been suggested :

1. Research should be carried out in the elimination of the toxic substances from mustard and rape products.
2. The iodine content of the imported iodised salt should be checked and controlled.
3. The iodine content of the imported iodised salt should be increased (to 100 ppm).
4. The tibetian salt should be iodised, and a method for the preparation of free-flowing iodised salt with a higher iodine content has been suggested.
5. It is unknown how hydrogenation or hardening, may effect the flavour and taste of the staple unrefined mustard and rape seed oils, but it will probably reduce their goitrogenic activity.
6. Until a processing method of reducing the goitrogenic activity of mustard and rape seed oil cakes or meals, is found out, a limitation of their quantity admixed to the animal and poultry feed, should be promulgated.

I would also suggest that any team studying the ethyology, cure and prevention of goitre, should colaborate with N. G. Food Research-Laboratory.

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