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A New Feature in Iodized Oils

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Abstract

SINCE the introduction of iodized oil in therapy by Sicard and Forestier (1), its usefulness has been established, confirmed, and generally accepted by the medical profession for roentgen diagnosis and iodine medication. Sicard and Forestier produced an iodized poppy seed oil. Other iodized oils which are also available on the market to-day are iodized sesame oil and iodized rapeseed oil. Subsequently, brominated oils were also prepared. In all these halogenated oils, the unsaturated fatty acids of the oil are chemically combined with only one halogen, such as iodine, or bromine.

In 1897, E. Merck, in Darmstadt (2), patented a method for making fats containing small amounts of iodine. In this patent the fact was emphasized that the presence of chlorine caused a darkening of the oil, and decomposition occurred in a very short time. If, however, quantities of the reagents forming iodine and chlorine in amounts below the theoretic one are used, then there were obtained stable oils containing iodine in amounts of 2, 5, 10, or 15 per cent and chlorine in very small amounts. In a patent (3) assigned to Merck and Company in 1909, Seifert points out that, up to that time, the following facts were known:

- 1. Complete treatment of fats with “chlor-iodine” yields “chloriodine” fats not stable and not suitable for medicinal use.**
- 2. Complete treatment of fats with hydriodic acid or with iodine and reducing agents yields iodine fats not stable and not suitable for**

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4. Incomplete treatment of fats with hydriodic acid or with iodine and reducing agents yields stable iodine fats fit for medicinal use. However, the incomplete treatment yields only fats or oils with a low percentage of iodine and a very low chlorine content.

In 1928 two physicians (4) prepared iodine trichloride by passing chlorine gas over iodine. This they then dissolved in water and shook it with corn oil. This oil was used for their sinus work. They did not mention the iodine content of the oil nor were they aware of the fact that the chlorine was most probably also combined chemically with the oil.

The New Feature in Iodized Oils

This was the status of the attempts to prepare fatty oil containing both chlorine and iodine when the problem was taken up in our research laboratories in 1929. In selecting the oil for our study, we were guided by a high iodine value, low specific gravity, low content of the free fatty acids. We also considered (5) that the unsaturated fatty acids, especially linoleic acid, of the oil are highly responsible for the irritating action of iodized oils. Poppy seed oil contains about 65 per cent of linoleic acid, while peanut oil contains only from 21.6 to 24.7 per cent. From these considerations we finally decided to use peanut oil.

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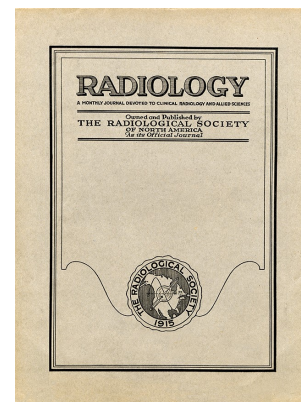
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