

Jean-François Coindet (1774-1834)

and the Treatment of Goiter with Iodine

Jean-François Coindet was the first to realize that iodine could be a successful treatment for goiter. Iodine had just been discovered a few years before the publication in 1820 of his lecture that startled his Genevan colleagues. For some centuries, seaweed and burnt sea-sponge had been well-used folk medicines to treat goiter. Coindet suspected that, because of the way that iodine had been discovered as a residue of extracted seaweed, iodine itself might be the active ingredient in burnt sponge that affected goiter. He tried it and it worked.

Coindet was a native Genevan who went to Edinburgh, then a mecca for medical training, for his MD and returned to Geneva in 1799 to begin his medical practice. He was quite successful and even at one point represented Geneva in the Swiss confederation. Goiter was particularly well-known in many areas of Switzerland although the cause was obscure. When Coindet thought that iodine might be good for goiter, he had a sample of sea sponge tested just to be sure it contained iodine: it did. So he abandoned the use of natural products and used iodine directly. His paper was picked up all around Europe, including an English translation in a London medical journal, and the treatment was tried equally widely. The treatment was reasonably successful when used as Coindet had directed.

As is so often the case, human nature leads many to try something different rather than to follow directions. In his own hands, Coindet's therapy worked well in most, though not all, patients. The goiters usually either disappeared or got a great deal smaller. But, as one did not need a prescription to buy iodine, some Genevans reasoned that, if a little was good, a lot would be even better. A few took to wearing small flasks of iodine hung around their necks and sipped a bit whenever the urge struck them. The result, to Coindet's chagrin, was that some of these Genevans lost weight, developed palpitations and tremor, and had a sustained increase in appetite. So iodine got a bad reputation and was seen as toxic. Coindet reported these unusual outcomes the next year, 1821, and its use as a goiter therapy dropped off markedly. We now realize that what Coindet had seen was iodine-induced hyperthyroidism which could reasonably be named "Coindet's disease."

Iodine was used for other diseases, such as syphilis, and Coindet, of course, knew nothing about iodine deficiency or hyperthyroidism; neither concept was established until many decades had passed. But he had found a medical therapy for goiter, shown a medical use for this new element, and set the stage for later discoveries about iodine and the thyroid. The citizens of Geneva may have found iodine too much of a good thing but that does not mean it is not actually a good thing; when all else fails, read the directions!