Emil Theodor Kocher

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The city of Bern in Switzerland is known for its beauty. What is not well known, however, is that the city has been home to three famous minds of the last century, one of whom we shall profile in this article. Vladimir Lenin stayed in Bern in the early part of the last century. Albert Einstein worked in Bern as a clerk in the patent office. And whilst living in Bern with its pleasant climate and scenic surroundings, Albert Einstein is said to have worked out his theory of relativity. But, while profiling the great pioneers in thyroidology, it is the third famous person from Bern that we will discuss, Dr Emil Theodor Kocher the Swiss physician and researcher who was conferred the Nobel Prize in the year 1909 in Physiology/Medicine for his contributions to thyroidology.1,2

Born in the city of Bern, Emil Theodor Kocher rose to be a Professor in the University of Bern. As a medical teacher, he was par excellence, having trained over 10,000 students. As a surgeon he was precise- and made significant contributions to anaesthesia and asepsis. However, it is as a thyroidologist, that he attained pre-eminence, for his contributions to thyroid surgery as well as for understanding the origins of cretinism.

Emil Theodor Kocher died, just as he had lived, while contributing to patient care and research. One evening, in 1917- he was called to the hospital for an emergency. The patient required surgery- which Dr Emil Theodor Kocher performed successfully. However, he felt tired and retired to bed early- working on scientific notes. He died that night, aged 75 years.

The Master of the Bloodless Coup

Kocher was a surgeon par excellence.3-5 As a Director of the University Surgical Clinic at Berne, Kocher was a prolific performer of thyroid surgery. The Kocher incision, above the sterno-clavicular joint in the neck, is a well-known parlance in international surgical cycles. Before Kocher’s days, thyroid surgery was considered excessively dangerous, with mortality rates reaching about 75%! With his technical finesse in developing a technique for removing the thyroid capsule in a blood less field, the surgical mortality reduced to 14% in 1884 and then 2.4% in 1889 and 0.18% in 1898. This obviously led him to be a master in the field. Over his career, his clinic performed over 7000 surgeries under his supervision, and three-quarters had been performed by Kocher himself. Indeed, the famous surgeon Halsted, writing on the history of goiter surgery in 1919 had this to say on Kocher:3-5

“Kocher, neat and precise, operating in a relatively bloodless manner, scrupulously removed the entire thyroid gland doing little damage outside its capsule.”

Discovering the Cause of Cretinism

It is not well known that the first accounts of hypothyroidism, and cretinism were from Kocher. To be fair,
however, this was an accidental discovery, as in many scientific discoveries. Kocher, however, was a firm believer in God, and most believers would, of course, object to words like “accidental discovery” or “chance” or “coincidence”. Nevertheless, whether it was destiny or chance, the story behind this landmark discovery of the effects of cretinism deserves a mention.5

It was in 1874, that Kocher operated on an eleven year old girl, and removed her thyroid gland. He later noticed that after the surgery, she became very tired, and had less initiative. He also noted a cretinoid appearance. Initially, the patient was taller than her little sister, but after the surgery, she stopped growing became shorter than her little sister. This was an early documentation of the association between hypothyroidism and short stature. However, at the time, Kocher did not relate it to thyroidectomy, though he did relate it to his surgery- ascribing this to tracheal injury. However, in these patients, he gives a typical description of hypothyroidism, calling it “Cachexia Strumipriva”.5 These descriptions were eventually followed by the treatment of injectable thyroid extracts and eventually, oral thyroid extracts. Notably, however, these effects of the removal of the thyroid gland led Kocher to postulate the need for a more focused, thyroid preserving surgery like a partial thyroidectomy.

Thus, the contributions of Kocher to thyroidology are considerable.5,6 The impact of his work on thyroidectomy and cretinism will continue to resonate with doctors all over the world - every time we plan thyroidectomy for a patient, or when we see a severe case of hypothyroidism.

References