

I have said that if surgery considers a case inoperable or difficult to operate, it can then call in radium; and in so doing it in no way abandons its own position, but, on the contrary, strengthens it. The reason for this is very apparent.

To obtain the best results it is necessary to inundate the tumors entirely and at every stage with the greatest possible amount of rays. Surgery, then, can step in to offer to the rays less thickness of tissue to be traversed, in different ways, such as making perforation with a trocar in the tumor so as to introduce (as Dr. Abbe was the first to do) one, or better, several tubes of radium in the most useful places, enabling one or more tubes deeply embedded in the tissue to send their rays in a cross-firing manner.

These tubes must be of the greatest radio-active power possible; they should contain at least from 5 to 10 centigrammes of pure radium and their walls, forming the filter, must be as thin as possible, not more than 3-10 mm. of silver, so that a considerable quantity of rays may be put in action.

These tubes are left in place 24 or even 48 hours. During this time other apparatus may be applied on the cutaneous surface of the tumor, but now with thick filters to prevent any necrosis of the surface, and thus the cross-fire is made in every direction.

But there are other methods in which surgery and radium can work together. Surgery can perform a large incision to enable the placing of apparatus inside the wound, and it can also excise the maximum of the growth.

One patient, after the extirpation of a small cancer of the labio-gingival region, had a sub-maxillary metastasis, spreading rapidly in an acute manner in the neck to such an extent that it was judged inoperable and absolutely hopeless.

The histological type of the tumor was "Epitheliome-tubulolobulo-méta-atypique."

It developed rapidly and looked extremely malignant. My friend, Dr. Banzet, a noted surgeon in Paris, was asked to take away the maximum possible of the tumor in September, 1909. He cut it slice by slice and only stopped when near the large vessels and muscles of the neck. At that moment the entire base and circumference of the wound was still a mass of cancerous tissue. It seemed quite certain to Dr. Banzet that his surgical intervention was perfectly useless, perhaps even harmful, and that in a month, as he had said, the cancer would bud again.

During 48 hours I placed very large doses of radium inside