

Beta and Gamma rays, "rayonnements surpenetrants," strong, penetrating rays, would produce a deeper necrosis.

The absorption of a smaller number of weak, penetrating rays would produce a superficial selective reaction without any burning.

Finally, the absorption of a small number of strong, penetrative rays, combined with the cutting off by filtration of the other rays, would produce a deep-seated selective reaction without any burning of the surface.

Let us now see how we must use the apparatus at our disposal in order to obtain these modifications, in order to obtain the combinations of quantity and quality, in order to obtain such and such quantity or such and such quality of rays.

The quantity of rays used is under the control of three different means:

1. The choice of the radio-active source, which can be more or less intense; the choice of a strong or weak apparatus; the choice of several apparatus applied in the same time, that is to say, the quantity of pure radium used, for treating a simple case.

2. The different duration of the application. A comparatively weak apparatus or a comparatively weak radiation, if left in place for a long time, say 100 hours, will cause the tissues to absorb an enormous quantity of rays. A comparatively powerful apparatus left a very short time in place, say one minute, will cause the tissue to absorb a rather comparatively feeble quantity of rays.

3. The filtration which cuts off a given quantity of rays. These factors all affect the quantity of rays absorbed.

Now, in regard to the quality of the rays absorbed, it can be modified only by filtration. Do you want the majority of the rays to be of very weak penetrative power? Then you choose apparatus made so that their case or their varnish is as thin as possible and apply them without screen. The linen apparatus having a very thin varnish gives passage to a great quantity of the rays.

Do you want the majority of the rays to be of greater penetrative power? Then you interpose light screens 1-100, 2-100, 5-100, etc., of aluminum.

Do you want the majority of the rays to be of super-penetrative power? Then you interpose screens which will allow none but these to pass; screens of 1mm. and 3mm. thickness of lead.

If we recapitulate all we have said, we see that, in short,