X-RAYS AND CANCER

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Notiting very novel or even original will be found in this quite unpretentious contribution to a most interesting subject, no new or startling theories are to be propounded, no discoveries set forth, but only a few thoughts merely, which have probably occurred to everyone who has employed the X-rays either as a diagnostic or a therapeutic agent at all extensively, or who is familiar with the literature on the question.

There are perhaps very few deviations from the normal condition about which we know less than we do about cancer, in spite of the vast amount of research which has been expended upon the subject, and there are few diseases which more frequently defy our most cunning devices and resist our best efforts to combat. Fortunately, we are not always beaten in the struggle.

Can the X-rays throw any light upon the subject of cancer? Possibly they can. Certainly they suggest to us ideas which may be of some value.

In the early days of the use of the X-rays we knew very little about them beyond the fact of their power to penetrate tissue more deeply than other rays with which we were more familiar. Our attention was chiefly directed to their ability, not only to penetrate tissues in other respects opaque to light rays, but also to produce certain changes in chemical substances after having passed through such tissues, such as the ordinary changes produced on a photographic plate by the action of light. This power we utilized in taking radiographs for diagnostic purposes.

Another characteristic noted was the production of fluorescence in certain substances, such as calcium tungstate and platinocyanide of barium, after passing through otherwise opaque tissues, and as certain portions of the tissues, notably denser portions such as bone, absorbed a relatively larger proportion of the rays than did the softer tissues such as flesh, fluorescence was more actively excited by rays which had passed through flesh merely, than by those which had passed through bone.

Acting upon this characteristic, screens were devised coated with a fluorescing substance, and were held against such region of the body as we desired to examine, while the rays were allowed to pass through this region from the opposite side; the parts of the screen opposite bone fluorescing to a lesser extent than those opposite flesh only, an apparent shadow of the bone was cast upon the

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