On the Concept of Radicalism in Surgery for Cervical Cancer

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The idea of a radical operation for carcinoma of the cervix originated with Ries and Wertheim. The purpose of this operation, which was applied by Wertheim in 1901, is to remove not only the affected organ, but also the parametrial tissues. However, the limits of the dissection of the parametrium have never been defined with anatomical precision. As a result the extent of such a dissection is left entirely to the choice of the individual surgeon. The results of such procedures, therefore, become difficult to compare statistically. It is time, therefore, to define what is meant by the term "radical."

Definition of Radicality

It is apparent that the main part of the parametrium has to be dissected. One has to consider, however, that the parametrium is a mass of fat and cellular tissue branching off to an area of vessels, nerves, and ureters without clear-cut limits. One should insist upon removing not only the main part of the parametrium, but also the paravesical, paravaginal, and pararectal tissue. In addition, the entire tissue covering the obturator nerve down to the levator ani should be removed. The tissue covering the hypogastric vessels and the external iliac vessels, as well as the tissue which sticks to the wall of the pelvis, should be removed. I would like to stress here the importance of removing the cellular tissue and of mobilizing the external iliac vessels from the Psoas muscle. This will facilitate the removal of the tissue lying between this muscle and the hypogastric vessels and reaching up to the common iliac vessels. In order to avoid postoperative fistulas one should exercise care not to uncover too much of the ureter. On the other hand, no fat or cellular tissue should be left in this area. Finally, it is important to remove not only the anterior and posterior parametrium, but also the internal leaves of the broad ligaments and at least one-third of the vaginal wall.

Operative Technique

I do not think that the classic Wertheim operation is sufficient to attain the proposed definition of "radical." The removal of the surrounding tissues, as long as they are connected with the uterus, as required by Wertheim's technique, does not conform to the definition of radical. Furthermore, it is not prophylactic. Therefore, more detailed separate removal of tissue is proposed. The danger of dispersing cancerous cells has been overrated, since the therapeutic results have not been influenced by separate removal. Furthermore, cancer cells have been found in the blood before any operative procedure has been performed and have been found even in cases of preclinical carcinoma. The survival rates, reaching 80% or more in cases of stage I and IIa without positive nodes, prove the efficacy of separate detailed removal of the uterus-surrounding tissues. If extensive radicality can be secured, it makes no difference which ap-

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proach, abdominal or vaginal, is used. I think that the abdominal approach should be considered the truly radical one. But if the choice of the operative approach, as judged by clinical experience, is based on subjective standards, then the vaginal operation could be also considered as a radical one. The possibilities of radicality, however, are more limited.

Indications for Radicality

In an attempt to define the indication for the radical abdominal operation, I think that only stage I and II, with or without positive glands, are suitable for a successful radical abdominal technique. The comparison of final statistical results have of course to be considered separately. Above stage II, no procedure can be considered radical, so proper irradiation is indicated. If one prefers to operate I think the Bruns Schwieg anterior or posterior exenteration is the technique of choice. However, the radicality of this procedure is doubtful, since in advanced cases no one can know how far cancer has progressed.

The protection of the ureter to avoid fistulas can be achieved when care is taken to preserve the blood supply to the ureter without reducing the extension of radicality. In this respect the mobilization of the ureter from the inner leaf of the broad ligament (which should be removed) should be made by blunt dissection with the sponge stick so as not to denude the ureter. The lymph vessels surrounding the ureters should be removed. Visualization of the lymph vessels and differentiation from blood capillaries (which should not be removed) is facilitated by lymphangiography with Lipiodol and chlorophyl. Furthermore, before closing the parametrial space, we cover and protect the ureter with a soft absorbable gauze and not with foam which is of a harder consistency. Out of 270 radical operations using this technique, a uretero-vaginal fistula was formed in only one case.

I would like to advise against preoperative catheterisation of the ureters. This measure is not only an obstacle for the surgical manipulations, but the manipulations also often damage the ureteral epithelium. Therefore, this procedure may lead to dangerous complications without being of real help to the surgeon.

Diagnostic Techniques

Lymphangiography

The results of wide application of lymphangiography has not justified our expectations. The visualization of spiral lymph vessels associated with blockage, suggests the existence of a local infiltration, but provides no information as to the nature of the infiltration. In fact, the blockage can be either cancerous or inflammatory. The existence of aureoli around the gland and vacuoli in it, as well as the development of a collateral circulation are supposed to be characteristic of malignancy, but this is not always the case. Since we do not know if the blockage is due to malignancy or to local inflammation, no conclusion can be reached about the condition above the blockage. One should also remember that lymphangiography from the big toe renders visible only the anterior lymph net.

In spite of these disadvantages, lymphangiography can be helpful in surgery by making the lymph vessels visible, especially those around the ureter. Hopefully, growing experience with the method will improve the interpretation of our findings.

Isotopic Renography

Isotopic renography in the preoperative examination is very important, because it reveals the vascular function of the kidney, the function of the nephron, and normal or abnormal urine excretion. These facts cannot be detected by simple pyelography.

Moreover, in cases when urine excretion is reduced in spite of normal kidney function and normal pyelography, we have the impression that the reduced urine excretion occurs in advanced metastasis of the parametrial lymph glands which may influence the peristaltic movements of the ureter. This cannot be detected clinically or by pyelography. Consequently, the findings of isotopic renography may exclude from surgery cases of potential postoperative uremia which could lead to death.

Qualifications of the Surgeon

Since the laboratory became the favorite field of preoccupation of the younger generation, one is under the impression that the importance of the operative art has been rather neglected. No doubt the younger gynecologists have an earlier and better operative training than in the past, and they step into practice with more experience, skill, and success. Nevertheless, the clinical spirit and the operative art seem to be overlooked; thus many important aspects are neglected. When technical difficulties are anticipated, the easy solution is to subject the patient to conservative treatment, such as irradiation, cytotoxins, or a combination of both, while better results could be obtained by the operation. No operation is, of course, better than a poor operation, but why not an accurate one. Therefore, I think that the radical operation should be taught in full details by experienced leaders.

One has to accept that the final operative therapeutic results in carcinoma of the cervix, which in experienced hands and for stages Ia and IIa reach 80%, cannot be obtained either by avoiding the operation or by supplying insufficient radicality or even more by raising post-operative mortality.