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Howard J. Christian

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THE FRUITS OF CONSERVATISM IN THE TREATMENT OF OVARIAN PATHOLOGY

HOWARD L. CHRISTIAN, M.D.

IN THIS ERA of the atomic rockets and "radical surgery" the concept of conservatism has often frowned upon as indicative of weakness or a hollow spirit. Notwithstanding this attitude, however, an increasing awareness in the medical profession that the excision of certain organs and tissues may result in specific mental and physical deficiencies which cannot be completely compensated for by substitution therapy. The practice must be categorized in the conservative and, particularly, in those women who are still in the range of continued ovarian endocrine activity.

The trend toward conservative treatment of ovarian lesions is due to the recognition of certain functional disturbances which occur following removal of both ovaries. Ovariectomy was first instituted by Ephraim McDowell in the early nineteenth century and, after a stormy period of criticism, gradually became an acceptable and comparatively frequent procedure. Subsequently, the ovaries were removed not only for tumors, but for all types of ovarian disease, vary-

ing from the most serious to the most trivial. In fact, at one time it was a common procedure to remove the ovaries in the treatment of various mental disturbances. After a time this practice was discouraged, when it was observed that the individual was deprived not only of ovulation but also of factors which had a marked influence on the general health.

SOME ASPECTS OF OVARIAN PHYSIOLOGY

As a result of the painstaking work of a number of investigators, there has been a gradual evolution of knowledge regarding the endocrine function of the ovaries. The more important of these are:

1. *Preservation of the functional capacity for pregnancy.* For the maintenance of this function, there must be one viable ovary, or a piece of one ovary, and a patent tube. Anatomically, it is conceivable that a small wedge of ovarian tissue with an intact blood supply may be adequate to maintain a normal physiological balance. The possibility of pregnancy will depend upon the presence of one or more Graafian follicles which are capable of maturation and of releasing a viable ovum. Under these circumstances, pregnancy is pos-

Dr. Christian is a Pathologist and Director of Laboratories at Carney Hospital, Dorchester, Massachusetts, also Assistant Professor in Pathology at Tufts University School of Medicine, Boston, Massachusetts.

sible, but it is not as likely to occur as in a normal female.

2. Continuation of menstruation.

Even though the hope of pregnancy must be sacrificed in those cases where disease necessitates the complete removal of both tubes, the preservation of at least a piece of one ovary will generally maintain menstruation. For the present it seems reasonable to believe that the growth of the endometrium is due almost entirely to estrogenic stimulation, and that a decrease in the blood estrogen leads to rapid endometrial regression and ultimately, to menstruation. The secretory changes in the endometrium are probably initiated by progesterone, or by a combination of progesterone and estrogen.

3. Continuation of the endocrine effect of the ovary. When the uterus must be removed, pregnancy and menstruation are, of course, no longer possible. However, this endocrine activity is not limited to stimulating the genitalia but, in addition, exerts a profound effect upon the body as a whole, namely:

(a) upon the production of hormones which are responsible for the development of the female physical and psychological characteristics;

(b) upon the maintenance of the sexual instinct;

(c) upon the maintenance of a normal vasomotor balance.

Available data indicates that the functions enumerated may not be operative in their entirety within one or both ovaries. Furthermore,

these functions may be divided between the two ovaries or, in the extreme example, be operative in only one when the second ovary is physiologically inert. Therefore, the importance of this concept is self-evident and should be a deterrent to the promiscuous removal of an ovary which is the site of minimal disease. The ovary removed may actually represent the entire mass of functional tissue in a specific case. On the other hand, preservation of a wedge of ovary does not automatically guarantee a continuation of the endocrine activity. The tissue must remain viable and maintain an adequate blood supply. If the nutritional status is impaired to the extent that the functional elements undergo ischemic atrophy, then the physiological effect is the same as that resulting from total ablation of the organ.

FACTORS RELATING TO PATHOLOGY OF BENIGN LESIONS

The pathological features of ovarian lesions have been thoroughly evaluated and discussed over a period spanning several centuries. The knowledge derived from these observations indicates that many cysts (follicular, simple unilocular, multilocular cystadenoma, "chocolate" or endometrial, luteal and dermoid) and few solid tumors (fibromata and adenofibromata) of a benign nature may simply grow in such a manner as to stretch the ovarian tissues over the outer surface. As a result of this growth pattern, a plane of cleavage usually exists between the lesion and the ovary. However,

there are some exceptions which do exist — those cases in which a large cyst or secondary inflammation results in actual destruction of tissue and in secondary functional inactivity.

There are various physiological changes in the ovary that may be associated with characteristic endocrine effects, but these are not classified as true neoplasms. Persistent follicle cysts of the ovary represent a disturbance of ovarian physiology rather than a benign neoplasm. The cysts are lined by granulosa or thecal cells in various proportions and either of them may be luteinized. The term "single cyst" is used to differentiate these from the polycystic ovaries, although in many instances more than one cyst may be present. Polycystic ovaries constitute a rarer but more complex clinical and pathologic entity than the single follicle cysts. Both ovaries are involved, and usually, they are enlarged two to five times their normal size. Because of the dense, white ovarian capsule which is characteristically present, the cysts may not be visible before sectioning.¹

The cystic ovary formerly represented a serious problem in the realm of conservatism. When the cysts were extensively distributed, the ovary was often removed under the impression that it was irreparably damaged. This idea has been radically modified as a result of the ever-increasing knowledge relating to ovarian physiology and pathology. The ovary containing these small follicular cysts actually

represents a functional disturbance which often may be corrected by endocrine therapy. In some instances, there may be additional complications, such as marked enlargement of the ovary or thickening of the capsule, which interfere with ovulation. These may necessitate excision of the cystic area, puncture of cysts, or excision of part of the capsule. When a large cyst is encountered, it may be completely enucleated; thus, the entire ovary or a remnant may be left behind. Immediately upon removal, every cyst should be opened and its benignancy established before the operation is concluded. It should always be borne in mind that ovarian tumors are frequently bilateral and both ovaries must be carefully inspected or incised.

The finding of endometriosis in the young female presents a complex problem to the gynecologist. A frank discussion of the situation with the patient may very often lead to a program of periodic observation rather than to a decision involving mutilating pelvic operations. In some cases, there may exist a form of invasive and destructive endometriosis accompanied by severe symptoms which will warrant radical treatment. Under these circumstances, the involvement of the ovaries and the resultant loss of function may render conservative treatment impossible. However, there are occasional cases in which the preservation of a small ridge of ovarian tissue has been rewarded by subsequent pregnancies. The importance of a careful study of conditions found at

operation with a view to preservation of ovarian and generative function is emphasized in an instructive article by Beecham.² In a series of 61 cases of endometriosis in patients under the age of forty-five and with symptoms requiring operation, he was able to preserve the childbearing function in 32 (52 percent) and ovarian function in an additional 14 (23 percent). In subsequent observations of one to six years, only two patients had troublesome symptoms — a clear refutation of the theory that endometriosis necessarily requires ovarian ablation to stop symptoms.

The use of radiation alone as the initial method of treatment should be avoided in most instances. Surgery is preferable to radiation because of the opportunity it affords for conservatism with removal of large endometriomas, the correction of associated pelvic pathology and often preservation of ovarian function.

In summary, this brief analysis

of the complexities and inter-relationships of ovarian physiology and pathology re-emphasizes the greater need for conservatism in the treatment of ovarian lesions. Once it has been established that a lesion is benign, every attempt should be made to spare the normal structures. In the young female, the needless sacrifice of functioning ovarian tissue may result in irreparable damage. Conversely, the sparing of only a small wedge of functioning tissue may preserve not only the endocrine activity but, in some instances, be rewarded by subsequent pregnancies.

A long-range view of a patient's total welfare is better medicine than is the myopic approach which may correct a relatively minor pathology today, but at the cost of more serious trouble tomorrow.

FOOTNOTES

- ¹ Morris, J. M. and Scully, R. E.: *Endocrine Pathology of the Ovary*, ed. 1, St. Louis, 1958, C. V. Mosby Co., p. 40.
- ² Beecham, C. T.: "Conservative Surgery in Endometriosis," *Am. J. Obst. and Gynec.* 52: 707-15, 1946.

International Congress of Catholic Physicians

Munich will be host to the 9th International Congress of Catholic Physicians to be held July 25 - August 1, 1960. The theme of the Congress will be: **The Physician and the Technical World.** American Catholic physicians are urged to attend. The Oberammergau Passion Play will be staged in the summer of 1960. The World Eucharistic Congress will also be held in Munich at the time of the Physicians' Congress. Those interested are urged to contact:

Dr. Pius Müller
Rupertus-Klinik, Herzog, Maxstr. 13
Bamberg (13a) Germany