can be divided into three groups. The first consists of multiple follicular cysts and superficial collagenization, the so-called Stein-Leventhal ovary or theca interna thecosis; the second, which is infrequent, is a combination of the first and transformed stromal cells with enzyme activity. The latter cells are also called stromal theca cells or luteinized stromal cells. The third group is stromal thecosis in which only transformed stromal cells are present. The first two groups, which occur in the younger age groups, may be connected, but there is no evidence that the third group of thecosis which occurs predominantly in the postmenopausal woman has any relationship to the first two groups in Shippel's sense of a common disorder (Taylor[5]). According to the gross and microscopic observations listed in the article in question, Case IV-52 belongs to the second group. Cases III-22 and III-23 as well as II-18 belong to the first group. No cases of Group Three or stromal thecosis as described by Novak and colleagues,[6] Scully and Cohen,[7] and Fienberg and Cohen[3] were included.

Another point of importance which is not always recognized by endocrinologists is the lack of a steady-state Stein-Leventhal syndrome.[9] The basic feature of the syndrome, apart from the superficial collagenization (not a thickening of the capsule), is the lack of rupture of the follicles and discharge of the ova with occasional cystic transformation. The clinical manifestations as pointed out years ago by Dutoit[8] may range from hyperestrinism to androgenic effects. The endometria may vary from proliferative and hyperplastic to atrophic. Microscopic study discloses variable findings in the lining of the follicular structures with cystic formation and occasional luteinization. Only with histochemical enzymatic procedures is it possible to be definite about luteinization.[4] Certainly, large follicular cysts, as the authors state, are not essential for the Stein-Leventhal ovary, and a paucity of primordial and developing follicles must be expected in the end stages. A proper understanding of the dynamic process[9] at work in the Stein-Leventhal syndrome with continuous evolution and involution of the unruptured follicles and the accompanying variable hormonal secretion, both qualitative and quantitative, would go far toward a meaningful interpretation of biochemical findings. Certainly, further investigation which includes histochemical enzymatic studies in conjunction with biochemical studies is needed to elucidate the enigma of thecosis, both of the theca interna and the stromal theca cell types.

Robert Fienberg, M.D.
Beverly Hospital
Beverly, Massachusetts 01915

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Reply to Dr. Fienberg

To the Editors:

An accurate histologic diagnosis of ovarian hyperthecosis is important in interpreting our data and especially in relating it to the work of others. The term *ovarian hyperthecosis* was used rather than the Stein-Leventhal syndrome because of the following histologic details: (1) Multiple large follicular cysts were not a common feature of the ovaries of our patients (with the exception of Case II-18), and atretic follicles were present in large numbers; (2) there was a paucity of primordial, developing, and Graafian follicles; (3) hyperplasia of the theca interna of the atretic follicles was present (Fig. 4, Am. J. Obstet. Gynecol. 110: 959, 1971); and (4) numerous clusters and, in some cases, large islands of "theca-like" cells with sudanophilic cytoplasm were distributed throughout the stroma (Fig. 6). Thus, our patients had both interna and stromal thecosis.

We do not agree that our Cases III-22 and III-23 belong to the Fienberg Group One which comprises the Stein-Leventhal ovary because both patients had interna and stromal thecosis. As a matter of fact, Fig. 6 of our paper utilizes the ovary of Patient III-23 to illustrate a large island of "theca-like" cells in the ovarian stroma. Cases III-22 and III-23 therefore belong in Group Two and not in Group One. Case II-18 belongs in Group One.

Women with polycystic ovarian disease have a broad spectrum of phenotypic, histologic, and biochemical findings. The marked variability of these parameters is partly due to a difference in the age of the women. However, the type and degree of the specific genetic defect are undoubtedly also important factors in determining the variability. Polycystic ovarian disease probably consists of several subgroups of more specific disorders.

James R. Givens, M.D.
Director, Division of Reproductive Medicine
Department of Obstetrics and Gynecology
University of Tennessee Medical Units
Memphis, Tennessee

Sidney Coleman, M.D.
Professor, Department of Pathology
University of Tennessee Medical Units
Memphis, Tennessee