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Original Articles

Vascular Lesions in Women Taking Oral Contraceptives

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Distinctive vascular lesions in association with thrombosis were found in arteries and veins in 20 relatively young women receiving oral contraceptives. These lesions were characterized by structural and histochemical changes in the intima and media. Occlusive thrombi were associated with relatively small, organized bases, the age of the latter measured in days to weeks. Nonocclusive and possibly earlier lesions were dominated by endothelial proliferation with minimal thrombus formation. It is postulated that this endothelial and intimal hyperplasia may be related to the steroids received and that it parallels similarly induced hyperplasias that have been found in cervical gland epithelium, in leiomyomas, and in a variety of mesenchymal derivatives under experimental conditions. Further control and experimental studies are required to clarify the possible relationship between these vascular lesions and oral contraceptives.

ALTHOUGH the clinical aspects of thromboembolism in women taking oral contraceptives have been reported in detail,^{1,2} remarkably little attention has been paid to the pathologic findings in these patients. In the course of reviewing 20 examples of thromboembolism associated with the use of oral antioviulants, definite histologic changes in both arteries and

veins were identified. These alterations are quite distinctive and have not been found in patients with thromboembolism who were not taking oral contraceptives. This paper describes the clinical and pathologic findings in a study of these 20 patients, with particular emphasis on the vascular lesions and their possible histogenesis and significance.

Material and Methods

The 20 examples forming the basis for this study were contributed to the Registry of Tissue Reactions to Drugs during the years 1966 to 1968. The available clinical data were tabulated, and routinely stained sections were reviewed. Histologic study was supplemented by preparation of additional slides from available formalin-dehyde solution-fixed tissue. The blood vessels were also studied with the following special stains: Masson's trichrome stain; Wilder's reticulum stain; Movat's pentachrome stain; PAS reagent, with and without predigestion with diastase; and the colloidal iron technique for acid mucopolysaccharides (AMP), with and without predigestion with hyaluronidase. Twenty-two examples of thrombosis or thromboembolism in women in the same age range were utilized as controls.

Clinical Findings

The 20 patients ranged in age from 18 to 41 years, with a median age of 29 years (Table). Fifteen were white and five were Negro. None had clinical or pathologic evidence of any concurrent disease that would predispose to thrombosis or thromboembolism.

The indications for the use of oral contraceptives were known in 14 patients: Contraception in nine; dysmenorrhea in

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