

REPOSITORY DOE-FORESTAL

COLLECTION MARKEY FILES

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FOLDER PAULSEN & KELLER (GENERAL FILES)

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File

LEYDIG CELL SIZE AND NUMBER: THE EFFECT OF
HUMAN CHORIONIC GONADOTROPIN ADMINISTRATION
IN FIVE NORMAL MEN

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Human chorionic gonadotropin (HCG) stimulates the Leydig cells of the testis to produce increased amounts of testosterone. This study was undertaken to determine if such stimulation results in an increase in the size and/or number of Leydig cells.

Five subjects received injections of HCG, 4 men for 6 weeks (4000 I.U./t.i.w.) and one man for 16 weeks (4000 I.U./q.o.d.). Biopsies taken at intervals during treatment were compared with control biopsies using a new method for quantitating Leydig cells. The number of Leydig cells counted in photographed areas was compared with the number of Sertoli cells in the same areas and results expressed as a ratio (Leydig cell/Sertoli cell). The cytoplasm, nucleus and nucleolus were measured with a Filar ocular micrometer at 1000x.

The Leydig cells did not increase in number or size even though urinary testosterone levels increased at least threefold. The Leydig cell/ Sertoli cell ratios among individuals before treatment varied widely (0.19 - 0.67). This variation is generally reflected by the control urinary testosterone values.

These data indicate that although the Leydig cells are stimulated by HCG their increased activity is not reflected by an increase in their size or number.

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