into successive intermediates could be discerned, however, since only about 20% of the added radioactivity could be recovered from the incubation medium; this was possibly due to the pronounced binding of steroid by the tissue.

It was noteworthy that, in contrast with the interstitium findings, yields of androstenedione were at all times near the limits of detectability, apparently indicating the rapid turnover of this compound.

In further contrast with the interstitium results, two additional products were isolated from the tubule incubations in substantial yields from both precursors. These were 20 α -hydroxypregn-4-en-3-one and 5 α -pregnane-3 β ,20 α -diol; they indicate the existence in the tubule of a steroid-reductive pathway. Two other products, also not found in interstitial incubations, await identification.

These observations suggest a steroidogenic role for the rat testis seminiferous tubule that is distinct and independent from interstitial hormone production. This concept is contrary to the commonly held view that the interstitial tissue (Leydig cells) is the principal site of testis hormone production in the mammal (Albert, 1961).

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Subribosomal Particles in Newborn-Rat Liver

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Shortly after birth in mammals there is a rise in the activity of a number of liver enzymes and a rapid increase in the rate of nuclear RNA synthesis (Sereni & Barnabei, 1967). In this study, labelling

of cytoplasmic ribosomal subparticles and monomers, polysomes and RNA was investigated at intervals after birth after intraperitoneal injection of [6-¹⁴C]orotic acid.

Optical scanning of postmitochondrial supernatants (PMS) revealed peaks of material sedimenting at approximately 80s, 65s and 45s corresponding to ribosomal monomers and subunits. After a 30min. pulse there was a progressive rise in the total acid-insoluble radioactivity of PMS during the first 24hr. after birth. At 0, 2, 12 and 24hr. after birth the proportion of radioactive material sedimenting more slowly than 80s, in the 45s region, was 13%, 23%, 39% and 40% respectively. The equivalent values for material sedimenting more rapidly than 45s were 9%, 21%, 21% and 22% respectively. In the different age groups there was no significant difference in the proportion of material sedimenting more rapidly than 80s (approximately 67% of total). Selectively isolated polysomes were poorly labelled but their radioactivity rose during the first 24hr. after birth.

RNA was extracted and analysed by 5–20% sucrose-density-gradient centrifugation; 45s subribosomal particles contained 18s RNA only and 65s particles contained both 18s and 28s RNA.

The specific radioactivity of RNA extracted from whole PMS was greater than that from polysomes. But the specific radioactivity of both rose progressively at increasing intervals after birth. After 30min. pulses, radioactivity in the PMS was found mainly in 18s RNA and to a lesser extent in poly-disperse RNA. After 24hr. pulses, radioactivity was predominantly in 28s RNA and the differences between age groups disappeared. Thus, as in steroid-induced protein biosynthesis in adult rat livers (Finkel, Henshaw & Hiatt 1966), the 45s particles containing 18s RNA were labelled selectively after short pulses. The rate of labelling rose rapidly during the 24hr. after birth.

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