

changes in the cells themselves: a state of affairs not yet clearly shown to occur in any tissues of the body. Second, we may suppose that it never formed a part of the metanephros, but was included in it mechanically, by heteroplasia. There is abundant evidence that this frequently occurs in the body, and we have other instances of it in the kidney itself.

In connection with the development of the kidney, we have certain foetal structures, such as the pro-nephros, and portions of the Wolffian ducts and Wolffian body, which undergo atrophy at an early period of foetal life, and it appears reasonable to suppose that parts of these may persist, become enclosed in the kidney, and subsequently form tumors in it. Theoretically, the kidney should be the organ, of all others, able to furnish instances of the teratoid origin of tumors from persistent embryonic rudiments, yet, with the exception of striped muscle tumors, few renal growths have been regarded from this point of view, the tendency being rather to consider renal growths as necessarily originating in true renal tissue.

Bland Sutton (*Lancet*, 1887) has suggested the possibility of the so-called congenital cystic kidneys being in reality due to persistent remnants of obsolete portions of the Wolffian duct.

Although Cohnheim's hypothesis of the origin of tumors from the persistence of superfluous portions of embryonic tissue has not fulfilled its originator's expectations by explaining the genesis of all forms of tumor as was at first attempted, still the teratoid nature of dermoid cysts, sacral hygromata, cysts about the neck or floor of the mouth, and their connection with obliterated foetal canals has been repeatedly demonstrated by Bland Sutton and others. Virchow showed (*Ueber die Bildung von Knochencysten*, *Berliner Akad. der Wissenschaft*. 1876) that cysts occurring in the shafts of long bones and in the jaw could be traced back to islets of cartilage which had become separated from the epiphysis, and which he was able to demonstrate in normal bones.

Of course the complete proof of the congenital nature of these forms of renal adenomata, whose cells differ from renal epithelium, can only be furnished when the structures which give rise to them have been detected in the kidneys and their source