

fever, and as in the boy M—, not infrequently follows an attack which is so trivial as to be almost overlooked. *Diphtheria* is an occasional cause, and the other infectious diseases may at times be followed by an acute inflammation of the kidneys. After cold and scarlet fever, you will find, as practitioners, that *pregnancy* comes next in order of frequency in inducing this affection. How it does so we need not stop here to inquire, the explanations usually offered are not altogether satisfactory.

The *morbid anatomy* has been much discussed. In the early stage we do not often have an opportunity of dissecting the organs, but doubtless we would find them congested and swollen. At the period in which we commonly inspect them—from three weeks to three months after the onset—the organs are much enlarged, weigh 8 to 10 ozs., and have the appearances known as characteristic of the “large smooth kidney,” or the mottled kidney. The capsule is thin, and strips off easily; on section, the cortex is seen to be increased in thickness and anemic, or of an opaque yellow-white aspect; the Malpighian tufts and the arterial twigs are injected, as are also the large collecting veins which convey the blood from the stellate veins of the surface. The pyramids are usually congested, and offer a striking contrast to the pale cortex. The histological changes are chiefly in the cortical parts, and consist in swelling of the epithelium, which becomes more granular, and may degenerate into a molecular *débris*, distending the tubules. Other tubes may contain blood-cells and leucocytes, with casts. In later stages, fatty changes may cause patchy opacities. Inter-tubular changes, in the form of connective tissue proliferation, have also been described, and probably always take place in cases which last several months. These have been specially described by Klein in the scarlatinal form. Bowman's capsule and the contained glomerulus are also involved. Klebs first called attention to these changes (glomerulo-nephritis), but he believed them to be entirely of the nature of proliferation of the cells between the capillary coils. Probably the epithelial coating, as well as capsular epithelium, is affected. I pass as round the Langhans plate (Virchow's Archiv.,

Bd. 76), in which these changes are well figured.

*Symptoms.*—In the majority of cases the appearance of œdema gives the first indication to patient or doctor. In the man B—, a slight chill, with feverishness and lumbar pain, preceded the œdema. In case I, persistent headaches appear to have accompanied the onset; and in case II, which followed cold, headache and vomiting, were the first symptoms. The latter is not infrequent in the early stage of scarlatinal nephritis. The most marked feature, dropsy, may vary from mere puffiness of the eyelids and œdema of the ankles to extensive general anasarca, with exudation into the serous sacs. The milder grade you see in this man (case III); the more intense you witnessed in the boy M—.

The alterations in the urine are of the utmost importance. In the early stage it is reduced in quantity, may be only a few ounces, or the secretion may even be suppressed. The *colour* is increased, usually dark red, from admixture with blood; very commonly it has a *smoky, lake colour*, very characteristic of the presence of blood, and which resembles a dilute solution of reduced hæmoglobin. The various shades of intensity of this you have had an opportunity of seeing in case III. The blood may disappear and then recur, as it did in cases I. and II. The *specific gravity* is increased at first, 1020 to 1030, owing to the relatively small amount of water. When the quantity rises to normal, the specific gravity is, as a rule, lowered. On standing, a copious sediment usually falls, reddish or reddish-brown in colour, and consisting of blood and urates. Chemically, the most striking change is in the presence of *albumen* when you heat the urine in a test tube, or add cold nitric acid. So much may be present that the urine solidifies, and 50 to 60 % by bulk is not uncommon. The *urea* is diminished in amount. In case III, the estimates made by Messrs. Renner and Gooding with Dupré's apparatus give 28th, 46 ozs. 287 grs.; 29th, 70 ozs. 403 grs.; 30th, 55 ozs. 250 grs.; 2nd, 68 ozs. 228 grs.; 3rd, 63 ozs. 257 grs.; 4th, 56 ozs. 247 grs.

The normal amount for the 24 hours is between