

genized waste, and consequent increase of kidney work, we now briefly consider what physiological changes are incident to the pregnant condition.

There are great congestion and growth of the uterus; there are rapid growth and development within the uterine walls—the shuttle is plying hard and fast, weaving the woof and warp of the new being. There is growth in the lymphatic glands, and especially increased activity in the pelvic lymphatics. There is an increase in the volume of the blood itself, and certain changes in its composition as well. More work is entailed upon the heart, and there is consequent growth of its structure. There is evolution of the mammary glands; sometimes disturbance in, and increased activity of the salivary glands; there is enlargement of the spleen, consequent upon its augmented function. The tributaries of the portal system are swollen, and increased work is thrown upon the liver, which is found frequently enlarged. Appetite varied and often capricious; besides many marked changes in connection with the nervous system. Nearly all these changes bespeak increased activity in the nutritive processes, and a corresponding increase in the excrementitious matters, with often a corresponding decrease in the eliminative function of the bowels.

The work of the emunctories must therefore be largely increased—notably the kidneys, for upon them is devolved the removal of more than nine-tenths of the obnoxious products of both the mother and the foetus. As pregnancy advances the renal eliminative work increases, and more and more is there danger of some disturbance of this function; the kidneys, in many instances, are kept in a state of chronic irritation. There is increased tension in the glomeruli; and the presence of albumen in the urine. Part of this tension is, no doubt, due to efferent pressure, and part, no doubt, to efferent resistance brought about by pressure on the renal vein. Any sudden check in the function of the compensatory organs at this stage may result in puerperal nephritis. We are now sailing in foggy weather, whether we are conscious of it or not. If there be such a phenomenon as physiological puerperal albuminuria the atmosphere never sufficiently clears to enable one to see when he

crosses the line and passes from the physiological, into the pathological. But looking upon all cases of puerperal albuminuria as pathological, one knows he is in uncertain waters, and as a good mariner, knowing the danger of rocks and sandbars, takes frequent soundings, so does the thoughtful physician rightly apprehend the dangers of puerperal albuminuria, and rightly apply the treatment, both hygienic, diætic and medicinal.

Why have we albumen in the urine at all? And this question is no more easily answered than the one concerning the function of the kidney: Why have we not albumen in the urine in health? The answer brings us back to the physiology of the kidney, and growing out from this we have more than one explanation.

It may be that the capillaries, under the poisonous influence of accumulated waste products, lose what is supposed by some to be their normal function—the power of preventing the passage of albumen through their walls—that the capillaries here differ from all the other capillaries in the body.

And again, it is an interception of the selective power of the epithelial cells lining the convoluted tubes (whose function, as I have mentioned, was stated to be the reabsorption of water and albumen), the interception of such function being brought about by altered nutrition in the cells, due to the accumulated poisonous products.

Then, again, we have as among the causes of albuminuria the increased arterial tension and sometimes efferent resistance.

Any of the various explanations of albuminuria will apply to puerperal albuminuria. Here we have increased tension in the renal capillaries, which is so considerable as to produce during the period of utero-gestation noticeable enlargement of the left ventricular walls of the heart. Then, again, we have in a marked degree the increase of the waste products, exercising their toxic influence, and in this manner interfering with the proper nutrition of the renal epithelium, thereby impairing their function. Two facts and one inference. Increased tension and increased waste of matter—facts. Interference with the nutrition of the epithelium