

the whoop developed, the course of the disease was shorter than the usual duration of the whooping stage, but with no effect on the number or the severity of the paroxysms. In 12 per cent. of the cases there was no improvement either in the course of the disease, its severity or the number of paroxysms."

OBSTETRICS

UNDER THE CHARGE OF

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The Bactericidal Property of Vaginal Secretion.—HARADA has studied this subject at the Obstetrical Department of the Kyoto Imperial University (*AM. JOUR. MED. SC.*, August, 1916). He reviews the literature and describes his own methods of experimentation. He found that all of the vaginal secretion collected during his experiments was acid in reaction and that the bactericidal power of this secretion in pregnant patients increased in potency with the progress of pregnancy, reaching its climax on and after the eighth month. The bactericidal power of this vaginal secretion is strengthened with the increase in acidity. There is no other great difference in the action of this secretion upon various species of bacilli. In some cases the lactic acidity of this secretion was as much as 0.9 per cent., and although the bactericidal power of the secretion increased during pregnancy, the lactic acidity does not. The results of the writer's study show that the bactericidal power is greatly increased by the lactic acid contained in the vaginal secretion, but it was also found that the neutralized vaginal secretion possesses still some bactericidal power. There was reason to believe that certain substances are destroyed at 56°C ., which are capable of killing bacteria and other substances that are only destroyed by the removal of the acid. A test was made with chemically pure lactic acid to observe its bactericidal power, and it was found to be far less than that of a vaginal secretion in a ten months' pregnancy. It was further found that although lactic acids are contained in equal quantity in vaginal secretion, the bactericidal power of the vaginal secretion is not unvarying, but increases during the course of pregnancy. There is thus abundant evidence that lactic acid is not the only agent in vaginal secretion in pregnancy capable of destroying bacteria, nor is the bactericidal power of this secretion entirely destroyed by heating to 56°C . The activity of this secretion is considerably lessened by such heating, but is not destroyed. Vaginal secretion during pregnancy may possess considerable amount of dialyzed tissue juice, and it can readily be seen that healthy tissues or blood contain several bactericidal substances. Such are termed by bacteriologists bacteriolysin or amboceptor. If amboceptor is the principal bactericidal substance it is necessary to complete its property with complement. On experiment it was found that the addition of complement fails to render the secretion effective; the bactericidal property of vaginal secretion is not

bacteriolysis, which is necessary to complete its property with complement. Metchnikoff believed that cytase was the active agent in this phenomena, and Gruber-Futaki thought that lenkin was the active agent. Cytase is destroyed at 56° C. while lenkin is not, and both are thought to be produced by the leukocytes. As leukocytes are abundant in vaginal secretion, it seems reasonable to believe that they have much to do with the bactericidal property of this secretion. It was found that frozen solution possesses stronger bactericidal power than the unfrozen, and on further experiment it was found that the bactericidal substance was partly decreased by heat. From his studies the writer believes that the bactericidal property of pregnant vaginal secretion is not greatly affected by different bacilli. This property gradually increases during the course of pregnancy. Lactic acid in quantity 0.9 per cent. is contained in pregnant vaginal secretion and does not increase during the course of pregnancy. A substance which destroys bacteria in pregnant vaginal secretion is not in the nature of bacteriolysis, which is completed by association with complement. This secretion owes its power to destroy bacteria to the presence of lenkin, cytase or allied substances and lactic acid. Lenkin is probably an important factor in the bactericidal activity of pregnant vaginal secretion.

Role of the Anteposed Uterus In the Causation of Backache and Pelvic Symptoms.—In examining patients in early pregnancy it is not uncommon to find cases in which the uterus is anteverted, strongly anteverted and pushing downward, sometimes behind the pubis. Such patients often complain of considerable pain, disability and backache. Hertenix (*Jour. Am. Med. Assn.*, September 23, 1916) in these cases, notes the relative position of the cervix to the symphysis pubis and pays no attention whatever to the forward or backward position of the fundus. The amount of posterior descent of the cervix toward the coccyx, and not toward the outlet of the pelvis, was carefully noted. The stability of the lower part of the broad ligament, parametrial tissues and the uterosacral ligaments was tested by grasping the uterus between the examining hands and moving it as far as possible up behind the symphysis and backward toward the coccyx. By this manipulation the backache and dragging feeling of which the patient complained was frequently reproduced. To test the question of treatment, vaginal tampons were so placed that the whole uterus was forced well forward up back of the symphysis in the position where high suspension would hold it. These tampons were allowed to remain for forty-eight hours, the patient moving about freely and if the backache and dragging were relieved, it was believed that suspension would cure. In cases subjected to operation, as soon as the abdomen was opened the intestines were gently pushed up out of the pelvis and a careful exploration of all pelvic structures was made. The uterus was found far down in the pelvis, although there had been no descent toward the outlet. The fulness and congestion of the ovarian veins is very striking in these cases, the chief tension coming on the infundibulopelvic ligament composed of two layers of sensitive parietal peritoneum enclosing the ovarian vessels. This stretches around the side of the pelvic wall originating at a point posteriorly, corresponding