

intervals of about one hour. It seems that a gradient of excitability (Alvarez⁵) exists in the spiral valve but not in the spiral intestine, the reason being probably that the spiral valve is mainly responsible for the movement of the contents, while the spiral intestine acts merely as a churning mechanism.

The fact that the colon and rectum only contract spasmodically, are very distensible, and are sensitive to mechanical stimulation such as stretching, would seem to show that their function is that of a reservoir which empties itself from time to time automatically or on distention, their activity being regulated in some way by both divisions of the autonomic nervous system.

6357

Experimental Endometrial Embolism in the Rabbit.

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The fate of autologous endometrial tissue introduced into the venous circulation was studied in 11 rabbits in the "resting" stage, "in heat," post-partum and also in pregnancy. The operation consisted of laparotomy, with removal of about 1 cm. of a cornu, curettage of this portion, suspension of the scrapings in 3 cc. of homologous blood serum at room temperature, and immediate injection into the rabbit's ear vein. Histologic study of the tissues was made 30 sec., 12 hr., 24 hr., 48 hr., 1 week, 1 month, 69 days, 79 days, 109 days, and 130 days, after operation, the animals except for those which died of "embolic shock" 30 seconds after the injection, remaining in good health the entire period of their survival. The bulk of the cellular material was apparently filtered out in the lung arterioles and capillaries, no adventitious cells being found in the heart, spleen, kidneys or liver. Embolic cells, apparently viable could be recognized one week after injection but none could be identified after that time. Stromal cells possibly survive longer than epithelium. Fibrin is deposited about the cell emboli, their cytoplasm gradually disappears, the nuclei become pyknotic and break up, the embolus becoming converted into a hyaline mass in the smaller vessels and organized in the larger arterioles. Complete absorption or autolysis results in clearing of the pulmonary

⁵ Alvarez, W. C., "The Mechanics of the Digestive Tract", 2nd ed., 1928, 55.

vessels of the autologous cell masses with no suggestion of formation of new endometrial tissue. These results are in agreement with the distribution of the characteristic lesions in cases of human ectopic endometriosis. While Sampson¹ has found a venous dissemination of endometrial tissue within the human uterus and possibly in the groin, no instance of metastasis of non-neoplastic endometrial emboli has yet been observed above the diaphragm.

Halban² invoked lymphatic metastasis from the uterus to explain ectopic pelvic endometriosis, especially its extraperitoneal locations. He had recognized characteristic uterine glands in the regional lymph nodes. Glands have been found in pelvic lymph nodes in both the male and female but without typical endometrial stroma or menstrual reaction. However, since a venous invasion has been proved a lymphatic dissemination is at least theoretically possible.

6358

Effect of Parathyroid Hormone and Sodium Acid Phosphate on Bones of Guinea Pigs.*

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When parathyroid hormone is administered to normal subjects there is a rise in the serum calcium and a decrease in the serum phosphorus. Albright and Ellsworth believed that, following the administration of parathyroid hormone, the body fluids became depleted of phosphorus as evidenced by falling serum phosphorus; the tendency to make up the deficiency of the phosphorus and consequently the phosphate ions in the blood serum was met by removing calcium phosphate from the bones and a rise in the serum calcium ensued.

The recognition of the relationship of decalcification of bone in clinical hyperparathyroidism (fibrous osteodystrophy) and the experimental production of similar lesions by the use of the hormone of the parathyroid gland have interested us in the study of the

¹ Sampson, J. A., *Am. J. Path.*, 1927, **3**, 93.

² Halban, J., *Wien. klin. Wchnschr.*, 1924, **37**, 1205.

* The parathyroid hormone employed in this experiment was kindly supplied by the E. R. Squibb Co.