

contained about 30 mg. of free fatty acids per day when the diet contained no calcium soaps it seems reasonable to assume that approximately that much fecal free fatty acids had an origin other than from the calcium soaps of the diet. On the whole, therefore, our results are in agreement with the idea that calcium soaps are absorbed without undergoing previous decomposition or hydrolysis. Calcium butyrate, being very soluble was readily assimilated. Since the feces on this diet contained large quantities of calcium carbonate, it is likely that the calcium, above the requirements for bone formation, was excreted into the intestine as the carbonate. The urine after feeding calcium butyrate showed a relatively high calcium content.

The storage of calcium on the calcium lactate ration was 51 mg. CaO per rat per day; on calcium butyrate, 41-45 mg.; on calcium palmitate, 26-35 mg.; on calcium oleate, 24-32 mg.; and on calcium stearate 16-23 mg. per day.

Conclusion. Calcium palmitate soap was utilized to the extent of 38 to 66%; calcium oleate 90 to 91%; mixed calcium soaps from lard, 70-75%. Calcium stearate was rather poorly utilized, 25 to 45% of the soap disappearing from the intestinal contents.

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Experimentally Induced Intermenstrual Bleeding in Ovariectomized Monkeys.

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Recently Hartman^{1, 2} has reported the occurrence of intermenstrual bleeding in the monkey (*Macacus rhesus*). This usually appears between the 11th and 14th days of the menstrual cycle. Ovulation in the monkey, as checked by recovery of ova from the uterine tubes, occurs between the 10th and 14th days (Corner³ and Allen⁴). By means of exploratory laparotomy Hartman was able to correlate this phenomenon with changes in the ovary. His observations led him to believe that this interval bleeding was a nor-

¹ Hartman, Carl G., *Science*, 1928, lxxviii, 452.

² Hartman, Carl G., *J. Am. Med. Assn.*, 1929, xcii, 1992.

³ Corner, George W., *Carnegie Pub.*, Contrib. to *Embryol.*, 1923, xv, 75.

⁴ Allen, Edgar, *Carnegie Pub.*, Contrib. to *Embryol.*, 1927, xix, 1.

mal occurrence correlated with ovulation, or with the advanced development of one or more large follicles which, however, might fail to culminate in ovulation.

The present experiment deals with 2 adult ovariectomized macaques which were treated with ovarian hormone* in the form of gelatin pessaries for intra-vaginal administration. Daily doses were administered for 12 days. The beginning daily dose of 20 rat units was gradually increased until during the last 3 days of the experiment each animal was receiving 40 rat units per day. A total of 375 rat units of hormone was administered to each animal.

Daily examinations of vaginal contents were carried out by Hartman's method during the time of hormone administration and continued for 7 days following cessation of treatment. A microscopic study revealed the usual cellular content as described by Corner³ and by Allen.⁴ On the 10th, 11th and 12th days of the treatment and on the first day following the cessation of the treatment erythrocytes were demonstrated in the vaginal contents. In the cases of these 2 ovariectomized monkeys this ovarian hormone successfully substituted for the endocrine function of the ovaries in inducing this phenomenon experimentally.

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A Note on the Use of Wheat Starch in "Synthetic" Rations.

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In the preparation of vitamin-free synthetic rations for animal experiments the purification of ingredients is a time consuming task. A starch which does not seem to need purification for vitamin B work may be of interest. Wheat starch, a by-product in the manufacture of gluten, was found to be considerably cheaper than the best grade of pure corn starch and entirely lacking in the antineuritic factor. Over 60 rats were used in making the comparisons and checking the results reported here. Polyneuritis developed in from 3 to 4 weeks when a ration containing wheat starch, purified casein, salt mixture, crisco, and cod liver oil was supplemented with 0.5 gm. daily of autoclaved yeast. There was no apparent difference between the response on the raw starch and on that which had been auto-

* "Amniotin" supplied by E. R. Squibb and Sons.