liver weights and liver to body weight ratios were significantly higher than controls (Fig. 2). The liver weight of control rats decreased during the period of anorexia, paralleling the decrease in body weight; when the rats started to feed both body and liver weights increased and the liver to body weight ratios followed the same pattern. Although the body weights of the NDFDA-treated rats decreased steadily and at a higher rate than the pair-fed controls, the liver weights decreased very little and remained near the original weight for 16 days. At 30 days after treatment the liver weights had increased until they were almost twice those of control rats. The result was a progressive increase in liver to body weight ratio over the 30-day period since there was no decrease in liver weights to match the decrease in body weights.

Thirty-two tissues were obtained for histological examination and significant changes were found in the thymus, testes, stomach, bone marrow, kidney, and liver samples. Both control and treated rats had inflammation, hyperkeratosis, edema, and some elevation of the stomach probably resulting from starvation and stress and not distinctly exposure related. Although found in both control and treated rats, the lesions were more severe and prevalent in treated rats. The treated rats showed bone marrow hypopcellularity at 16 days which apparently was reversible as bone marrow composition was normal at 30 days.

Thymic atrophy was seen in treated rats 1 day after exposure and thymic tissue was found in the majority of treated rats at 12, 16, and 30 days. Atrophy and degeneration of the seminiferous tubules in the testes were also seen at 16 days after NDFDA injection and the degenerative changes were as severe after 30 days. Fatty changes in the proximal tubular epithelium of the kidneys were noted at 8, 12, and 16 days in 50% of the treated animals and were interpreted as a manifestation of a mild reversible toxic insult (Fig. 3). There were several notable differences between control livers (Fig. 4) and livers from treated rats (Fig. 5). The most striking and consistent change was in the handling of the blood of both time periods. The levels of eosinophils and platelets were increased in both control and treated rats at 16 days after exposure. Necrotic cells were found in the thymus of other time periods, and there was a significant decrease in blood eosinophils in the majority of both samples of both control and treated rats. The levels were significantly decreased in about