

respiratory exchange with decrease of abdominal distention. Our clinical experience, as well as those of others using these techniques, indicates a more rapid return to a more normal physiological state following decompression. Trauma to the bowel wall during the evacuation procedure can and should be kept to a minimum.

Summary

Mechanical obstruction of the small bowel 20 cm. proximal to the ileocecal valve was created in thirty pairs of dogs and then removed 5 days later. In one of the pair the bowel was decompressed by enterotomy removing the gas and liquid content. The other was not. At sacrifice 24 hours later the nondecompressed bowel was found to be one and a half to three times as distended and was two to three times as heavy as the decompressed animal. No shock or other ill-effects resulted from the decompression. A decrease in the serum potassium, sodium and chloride and a slight increase in the serum carbon dioxide, blood urea nitrogen, and hematocrit, which had been present in the animals at the time of the release of the obstruction, were restored to normal in the decompressed animals 24 hours later in contrast to the nondecompressed animals where abnormal values persisted.

References

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DISCUSSION

DR. JAMES C. DRYE (Louisville): I respect no team of surgeons more than the elder and the younger Drs. Singleton, but I do have a question as to the relevancy of the appearance 24 hours later of the bowel in the dog, the chemical findings and the relationship to actual mortality in the course of the human patient after a matter of days.

The dogs were sacrificed 24 hours after decompression. (I have been of two minds about this procedure; and have abandoned decompression of the bowel.)

I wonder how the mortality rates compare with patients who have had the bowel recompressed and with those who have not. I would have liked to have seen these dogs followed longer, perhaps for 10 days, 2 weeks, and 1 month, to learn about the mortality rate at those points.

DR. A. O. SINGLETON, JR. (Closing): We felt that the 24-hour period postoperatively was the more critical. We did carry other animals longer, and as far as we could see, there was no problem. The differences between the two simply became less and less as the non-decompressed bowel gradually returned to a more normal state.