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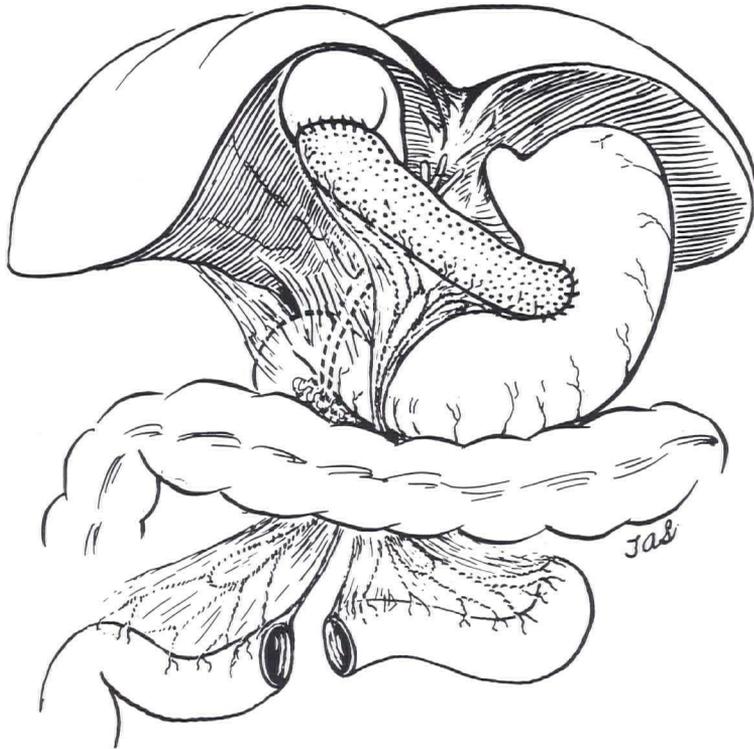
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THE NEUTRALIZATION OF GASTRIC ACID BY BILE TRANSPORTED THROUGH JEJUNAL TRANSPLANTS PRELIMINARY REPORT

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Duodenal ulceration presents a very common problem. The widely divergent views in regard to treatment speak for themselves more eloquently than any language of the lack of any completely adequate method of treatment. All methods of treatment have as their common goal the neutralization of gastric acid. Few would argue with the statement that there is considerable room for improvement in both medical and surgical methods of treatment for the all too common problem of duodenal ulceration.

The idea of using bile to neutralize gastric acid is not new. In the past, the usual procedure has been to anastomose the gallbladder to the stomach. This has been done under tension and in the majority of cases, stenosis of the anastomosis has taken place. Many extensive investigations have shown the ability of bile to neutralize gastric acid.



Jejunal segment connecting gallbladder and stomach.
The segment keeps the original blood and nerve supply.

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In this preliminary report, we would like to present a method which we have been using on dogs in the Surgical Research Laboratories at the Henry Ford Hospital. This method has utilized a transplant of jejunum with its own blood supply connecting the gallbladder to the stomach. The normal pH of bile in dogs has been found to vary from 5.8 to 8. The average pH in the dog's stomach has been found to average pH of 1 to 1.5. Human bile tends to be more alkaline than dog bile and should produce equal or better neutralization.

The jejunal transplant has enabled us to avoid any tension on the anastomotic lines with no tendency toward stenosis. No disturbance in the anatomical locations of the organs involved has been noted. Bile is present at all times in the jejunal transplant and stomach. By using these jejunal transplants in an isoperistaltic manner, we have been able to produce rather striking reductions in the free HCl concentration in the stomach. In the majority of dogs we have changed the gastric pH from 1 to 1.5 up to 4.5 to 5.5 This obviously represents quite a reduction in gastric acidity.

Experimental studies are still under way. Only time will give the final answer as to the practical application of this method in the all too common problem of duodenal ulceration.