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Título	Infliximab increases the tissue contents of type-I and type-III collagen in colorectal segments without fecal stream after Hartmann's procedure
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Resumo	**Introduction**: The restoration of intestinal transit after the Hartmann procedure (HP) has high rates of complications.[1] Anastomotic leakage is the most feared due to its high morbidity and mortality rates.[1] Several hypotheses have been proposed to explain the high incidence of leakage. Among them, the reduction of collagen content in colorectal segments without fecal stream (WTFS) has been given special attention. A reduction in collagen content in segments WTFS is related to a lack of supply of short-chain fatty acids (SCFAs) and its degradation by overproduction of collagenases due to inflammation.[2,3] Strategies that reduce inflammation in segments WTFS may reduce collagen degradation, increasing its content. Studies in a diversion proctitis (DP) model have shown that infliximab reduces inflammation and the production of collagenases in segments WTFS. However, its effects on the content of type-I and type-III collagen have not yet been studied. **Methods:** Twenty-four male Wistar rats were subjected to HP and were divided into 3 groups, which received interventions with saline, infliximab (5 mg/kg/week), and infliximab (10 mg/kg/week). The intervention started 12 weeks after HP and was maintained for five weeks. All animals survived. After the intervention, they were euthanized, and colon segments with fecal stream (WFS) and WTFS were removed from a standardized point. The inflammatory score was evaluated using a validated scale. The tissue expression of type-I and -III collagens was identified by immunohistochemistry, and their levels were measured by computer-assisted image

	analysis. Positive and negative staining controls were performed. In each animal, the collagen contents were measured in three different histological fields in segments WFS and WTFS. The final value for each experimental group in the segments WFS and WTFS is described by the mean of these measures and is expressed as a percentage per histological field (%/field). **Results:** Infliximab reduce de inflammatory activity regardless of the doses employed. The intervention with infliximab increase the tissue content of type I and type III collagen in colonic segments without fecal stream. **Discussion:** The lack of SCFA supply in colorectal segments without intestinal transit reduces the synthesis of several proteins. Collagen is the main protein of the matrix, and its content is fundamental to anastomosis healing. A reduction in collagen content is related to a higher incidence of leakage in patients undergoing restoration of the fecal stream. Infliximab seems to influence anastomotic healing by promoting less inflammatory activity and higher tissue collagen synthesis. Nevertheless, the effects of infliximab on collagen content in DP are poorly studied. This study found a reduction in the type-I and type-III collagen contents in segments WTFS, confirming the importance of the SCFA supply to maintain the synthesis of collagen. The intervention with infliximab did not change the collagen content in segments WFS. However, in segments WTFS, infliximab at both doses increased the contents of both types of collagens. These results suggest that previous use of infliximab may be an interesting strategy to evaluate in patients who are candidates for restoration of the FS to increase the collagen content and reduce the likelihood of anastomotic leakage. **Conclusion**: Infliximab reduces inflammation and increases the contents of type-I and type-III collagens in colorectal segments without fecal stream.
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