ADA Evidence Analysis Worksheet

Question	Is surgical therapy in young patients with diverticulitis more effective in reducing the number of recurrences than medical therapy?
Date of review	This article was accepted for publication March 4, 2005. We reviewed the article February 20th, 2009.
Reviewer	This is an original research article – not a peer reviewed article. The reviewers were Amy Harris and Lorena Ferchaud.

Author/Year: Greenberg, AS, Gal, R, Coben, RM, Cohen, S, Dimarino, AJ; March 4, 2005

Complete Reference: Greenberg, AS, Gal, R, Coben, RM, Cohen, S, Dimarino, AJ. A retrospective analysis of medical or surgical therapy in young patients with diverticulitis. *Aliment Pharmacol Ther.* 2005;21:1225-1229.

Design Type: Retrospective case series chart analysis

Class D

Quality Neutral

Purpose/Population Studied/Practice Studied

Purpose

To compare long-term outcomes of young patients treated with surgery vs. medical therapy for their first episode of diverticulitis

Inclusion Criteria:

1.) Aged <40 years old

2.) Discharge diagnosis of diverticulitis

3.) Suspected of having acute diverticulitis by history, physical examination and clinical course

4.) Diagnosis of diverticulitis confirmed by computerized tomography, barium enema, or surgical pathology.

Exclusion Criteria

Four patients had their first hospitalization for diverticulitis <1 year prior to the follow-up interview so they were excluded from the study because of an insufficient follow-up period

Study Protocol

A retrospective chart analysis was performed to identify patients that met all of the inclusion criteria. The participants of the study were contacted via telephone and were asked a series of questions regarding their diet and subsequent divericulitis episodes. The 49 patients were divided into two groups based upon whether they were treated with antibiotics (n=29) or had surgical management (n=20) after their first diverticulitis episode. The groups were also analyzed for potential relationships between recurrence rate or number of recurrences, and age, gender, diet, admitting white blood cell count, admitting temperature and adherence to diets of nut and seed avoidance and increased fiber. Surgical patients were classified further into two groups: uncomplicated and complicated diverticulitis. Complicated diverticulitis was

defined as perforation, fistula formation or an abscess. Follow-up time was calculated to the nearest month, from the date of the patient's first study-site hospitalization for confirmed acute diverticulitis, to the date the patient was contacted for an interview.

Data Collection

Independent: Treatment for diverticulitis (antibiotics vs surgical management)

Dependent: Recurrence of diverticulitis

Statistical Analysis: Data was collected via retrospective chart analyses and phone interviews with patients who fit the inclusion criteria. A Chi-square test was used to compare recurrences in the medical and surgical groups and to evaluate the relationship between recurrence and diet. Fischer's exact test was used to compare treatment received by males and females and to compare the presence of one or more recurrences with regard to gender. Student's t-test was used to evaluate the relationship between age and presence of recurrence, and the relationship between treatment (medical vs. surgical) and white blood cell count and temperature during admission. The Spearman's rank-order correlation was used to compare the presence of recurrences and white blood cell count and temperature during admission. The Pearson's product moment correlation was used to compare the number of recurrences, and patient's age, white blood cell count and temperature during admission.

Primary Outcome(s) /Results & Significance

Actual Sample

The retrospective chart analysis revealed 149 patients met the inclusion criteria. The researchers attempted to contact all patients by phone but were only able to contact 53 patients. Four were excluded so the actual number of participants was 49.

Results

- Of the 20 patients in the surgical group, 3 (15%) had a recurrence of diverticulitis (after a mean follow-up of 6.89 years)
- Of the 29 patients who initially underwent medical treatment, 16 (55%) had a recurrence, while 13 (45%) did not recur (mean follow-up 5.72 years)
- This difference in recurrence rate between the surgical group and the medical group is significant (P=.011)
- In total, there were 55 recurrences; 9 in the surgically treated group and 46 in the medically treated group
- 44% of the recurrences necessitated hospitalization (11% in the surgically treated group and 50% in the medically treated group)
- 4 patients in the medically treated group eventually developed complicated diverticulitis necessitating surgery
- Of the 3 patients in the surgically treated group who had a recurrence, none developed complicated diverticulitis
- There was no significant difference in the percentage of males who had a recurrence compared with females with a recurrence
- The mean age of the surgically treated group was very similar to that of the medically treated group
- No significant correlation was found between the presence of a recurrence or the

number of recurrences, and white blood cell count or temperature

Conclusions

Author's Conclusions

Many studies have been conducted and controversy still exists regarding the most appropriate treatment for young patients who present with acute uncomplicated diverticulitis. Some suggest they should undergo surgical resection of the diseased colon after their first episode. Others suggest that these patients will have favorable outcomes when treated with medical management, while avoiding the potential complications of surgery. This study has the longest mean follow-up of patients aged <40 years with diverticulitis. A review of dietary history in this young patient population showed that a diet low in seeds and nuts did not reduce the diverticular recurrence rate but the low number of subjects in the present study prevented them from confirming this finding. The study supports the view that treatment of young patients presenting with diverticulitis needs to be individualized as gender, age, white blood cell count, and temperature have not been shown to be useful markers to determine which patients would be better candidates for surgical rather than medical management. The results of this study suggest that medical management can be an effective initial therapy for young patients presenting with uncomplicated diverticulitis.

Reviewer's Comments:

Retrospective case series are very weak studies for a variety of reasons. First of all, the researchers have to depend on the accuracy of the medical records. Secondly, it's subject to selection bias because the researchers self-select the cases. Thirdly, a case series is uncontrolled and the researchers rely on the patients relaying accurate information which can always be subject to recall bias. The sample size was small and the follow-up time ranged from 1-11 years. The author's conclusion was weak and did not strongly support the findings of this study.