Problems in Ileal Conduit Surgery

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Being eligible as a former Brady resident for inclusion in this tribute to Dr. William Wallace Scott is a profound honor in itself. Thus, all the more am I proud to submit the following article to this worthy volume, if only to point out Dr. Scott's significant contributions to the subject of ileal conduit urinary diversion. I cherish my 4 years at Brady—the opportunity to embark on a lifetime of urology and the privilege to be a resident of Dr. William Wallace Scott.

The ileal conduit as a means of supravesical urinary diversion has been widely employed since 1950. The first operations of this nature were performed at The Johns Hopkins Hospital in 1955. All patients at the State University of Iowa Hospitals subjected to ileal diversion from 1961 through 1969 have been reviewed; many of the findings form the basis of this report. Case records through June 1970 of 178 patients (87 males and 91 females) were studied. Follow-up ranged from 7 days to 105 months. Patients ranged in age at the time of surgery from 16 months to 75 years. Rather than include all statistics gleaned, I have extracted specific problems (Table) I which are exemplified by findings in the series.

PATIENT SELECTION

Apart from usual criteria used to evaluate patients, the factor of basic disease process stands out. Two quite different population groups can be

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Table 1. Problems in Ileal Conduit Surgery

1. Patient selection
2. Staging of cystectomy
3. Urine infection
4. Stomal formation
5. Parastomal hernia
6. Conduit length
7. Ureteral transport
8. Ureter–ileal anastomosis
9. Retroperitonealization
10. Bowel obstruction
11. Radiation changes
12. Wound closure
13. Additional procedures
14. Experience of surgeon

distinguished—those with underlying benign disease and those with underlying malignancy. Patients with benign disease were younger at the time of surgery (average age of 13.7 years) than those with malignancy (average age 50.6 years). No patient aged 70 or older survived more than 7 months regardless of disease.

Morbidity and mortality were disparate between the two groups (Table 2). Early and late mortality were similar in the benign group, whereas early mortality was greater in the malignant group. The late mortality rate was high (50%) for the malignant group, probably stemming from the natural history of the underlying cancer as well as the higher complication rate seen in such patients. At the University of Iowa Hospitals no patient in the benign category has died in the early postoperative period (0–30 days) since 1963. Only one patient in the benign group has died in the late postoperative period (after 30 days) in the last 7 years. The causes of death are listed in Table 3.

The pattern of complications, major and minor, is listed in Table 4. Note that early postoperative complications were more common in the malignant group, whereas later the reverse was true. I believe this occurs because of deaths from carcinomatosis, while the longer survival of the patients in the benign group allows them time to develop more complications such as acute pyelonephritis, stomal stenosis, peristomal dermatitis, stomal irritation, urinary calculi, acidosis, pyocystis, and ureteral–ileal obstruction.

Table 2. Mortality Related to Ileal Diversion

<table>
<thead>
<tr>
<th>Disease</th>
<th>Early</th>
<th>Late</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benign</td>
<td>3/130 (2.3%)</td>
<td>3/130 (2.3%)</td>
<td>6/130 (4.6%)</td>
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<tr>
<td>Malignant</td>
<td>3/48 (6.2%)</td>
<td>24/48 (50%)</td>
<td>27/48 (56%)</td>
</tr>
<tr>
<td>All patients</td>
<td>6/178 (3.4%)</td>
<td>27/178 (15%)</td>
<td>33/178 (18%)</td>
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