EXTRARENAL INDICATIONS FOR PERITONEAL DIALYSIS
(Report of 2 Cases)

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1. Hepatic coma

Whether the poor prognosis of liver coma can be improved by dialysis is still discussed (Kalk, 1961; Wildhirt, 1960). Recently Caroli (1966) collected the cases from the world literature, in which several methods had been employed to reduce the level of circulating toxins:

<table>
<thead>
<tr>
<th>Method</th>
<th>No. of patients</th>
<th>Survivors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peritoneal dialysis (Nienhuis et al., 1957; Jones et al., 1959)</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Haemodialysis (Thölen et al., 1962; Sherlock, 1961; Kiley et al., 1958; Heilmeyer, 1962)</td>
<td>13</td>
<td>4</td>
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<tr>
<td>Extracorporeal dialysis through columns of ion-exchange resins (McCann, 1961; Ching et al., 1958; Richtering and Wolf, 1964; Schechten et al., 1958)</td>
<td>20</td>
<td>6</td>
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<td>Cross circulation (Burnell et al., 1965)</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Heterologous liver perfusion (Eiseman et al., 1965)</td>
<td>8</td>
<td>0</td>
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</tbody>
</table>

The depth of coma is not directly related to the serum concentrations of ammonium, alpha-amino-nitrogen or combined and uncombined phenols (Muetting, 1961). It is notable that higher levels of these substances can be found in cerebrospinal fluid than in serum (Muetting, 1966). All these substances pass the CSF-blood barrier; dialysis therefore seems a reasonable treatment (Kelemen, 1960; Hasik et al., 1962; Weg et al., 1964; Levy et al., 1964).

Case report

A 32-year-old female fell ill with serum hepatitis 3 months after haemodialysis for postpartum exacerbation of pyelonephritis. On the fifth day she lapsed into coma which lasted 7 days. From the second day of coma she was treated by peritoneal dialysis for 84 hours continuously, then intermittently until she regained normal consciousness. She recovered quickly and felt well within a few days but died 10 days later in another department. The cause of death was probably hypokalaemia during a polyuric phase when she was receiving calcium and digitalis. Autopsy showed a severe subacute hepatitis.

Since infusions of laevulose, malic acid and vitamins and treatment with cortisone were given during the coma and since recovery from 7 days of coma without dialysis has been recorded (Burgmann) we cannot attribute her recovery to peritoneal dialysis with certainty. A theoretical advantage of peritoneal dialysis over intermittent haemodialysis is that the levels of toxic substances should be kept at a more constant low level. Further studies,
including measurement of potential toxins in blood and CSF, are required to test the value of peritoneal dialysis.

2. Constrictive pericarditis

Peritoneal dialysis is a simple and relatively safe way of removing large volumes of fluid from patients refractory to diuretics or with dangerous fluid overload (Boen, 1964; Goldsmith et al.,
1960; Bertrand and Guérin, 1961; Polyák, 1964; Gilsanz et al., 1963; Anthone et al., 1963).

Case report

A 27-year-old man with tuberculous constrictive pericarditis had oliguria, anasarca, pleural effusions and ascites. He failed to respond to several diuretics and was judged unfit for operation. By peritoneal dialysis with hypertonic dextrose-containing solution we removed 30 litres of fluid and he then underwent decortication without incident. Postoperatively he had no oedema or ascites, his creatinine clearance was normal and he felt well. He was treated with antituberculous drugs.
REFERENCES

BURGMANN, cited by H. Kalk.