ABDOMINAL AORTIC ANEURYSM
SURGERY – LOCAL EXPERIENCE

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ABSTRACT

Objectives: The aim of this study was to evaluate the outcome of AAA referred to our unit by general surgeons/physicians

Material and Methods: This study was conducted from Jan 1996 to Dec 2001. 25 AAA were referred. Age range 18-75 years (mean 54 years) male 19, female 6. Eight out of 25 patients presented with dissecting leaking AAA while 16 presented with non-specific symptoms. Diagnoses were made only by doppler ultrasound.

Results: Out of 8 leaking AAA 2 patients were not operated because of low pressure and no response to resuscitative measures. Six patients underwent surgery but we lost 4 out of which 1 had table death, 2 patients died on 3rd and 5th post operation day because of Acute MI, 4th patient died on 4th post operative day because of graft thrombosis. Two patients survived the operation and went home on the 10th post operation day. Out of the non-dissected group of AAA all the patients survived surgery and discharged home on the average 10th post operation day.

Conclusion: Non-specific abdominal pains radiating to back especially in the elderly should be thoroughly investigated keeping in mind the AAA and they may be referred to the respective center for proper management.

Key words: Abdominal aortic Aneurysm surgery, Local experience.

INTRODUCTION

As our population ages and death rate from other causes declines, the incidence of these aneurysms will likely to increase and the management will remain a surgical challenge well into the new millennium.

In the western world, approx 10% of patients in a vascular surgeons practice suffers from abdominal Aortic Aneurysm.
Approx 2800 new aneurysm is reported in the U.S.A every year and 5000 patients present with rupture. There have been no convincing environmental, racial or geographic predilections for aneurysmal disease. A recent Scandinavian study documented a 2% incidence of A.A.A. at post mortem examination. In the absence of surgical repair A.A.A. will eventually dilate in size with disastrous results. By far the most important factor in evaluating the risk of rupture of an A.A.A. is its size. The aneurysm of 4cm in size has a risk of rupture less than 15% in 5 years and a size greater than 6cm risk increase by 75% - 80% in 5 years. So any A.A.A. which has reached the size of 6cm must be surgically treated to prevent any catastrophic results.

MATERIAL AND METHODS

This study was carried out in the department of Cardiovascular Surgery P.G.M.I. / L.R.H. Peshawar from 1 Jan 1996 to 31-12-2001. Total number of patients received was 25. They were divided into two groups, Group A (8) Leaking/ dissection A.A.A. and Group B (17) Non-leaking A.A.A.

<table>
<thead>
<tr>
<th>Group 'A' (08) Leaking A.A.A.</th>
<th>Group 'B' (17) Non-leaking A.A.A.</th>
</tr>
</thead>
<tbody>
<tr>
<td>No: 8 (32%)</td>
<td>17 (68%)</td>
</tr>
<tr>
<td>Sex: Female 3 (37.50%)</td>
<td>03 (17.64%)</td>
</tr>
<tr>
<td>Male 05 (62.50%)</td>
<td>14 (82.35%)</td>
</tr>
<tr>
<td>Age range = 18-64 yrs (Mean=52 years)</td>
<td>24-74 years (Mean=56 years)</td>
</tr>
</tbody>
</table>

As it is evident that male to female ratio is 19:6 and the mean age is greater than 50 years in our set up. All the patients presented with history of backache and pain abdomen and history of hypertension in both groups A and B (Table - 2) apart from other symptoms.

<table>
<thead>
<tr>
<th>Group A = (08) Leaking A.A.A.</th>
<th>Presenting Symptoms</th>
<th>Group B=(17) Non-leaking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension and shock</td>
<td>03 (37.50%)</td>
<td></td>
</tr>
<tr>
<td>Haematemesis</td>
<td>01 (12.50%)</td>
<td></td>
</tr>
<tr>
<td>Peritonitis</td>
<td>01 (12.50%)</td>
<td></td>
</tr>
<tr>
<td>Mass abdomen</td>
<td>08 (100%)</td>
<td>17 (100%)</td>
</tr>
<tr>
<td>Hx of backache &amp; pain abdomen</td>
<td>08 (100%)</td>
<td>17 (100%)</td>
</tr>
<tr>
<td>Hx of hypertension</td>
<td>07 (87.50%)</td>
<td>17 (100%)</td>
</tr>
<tr>
<td>Hx of coronary artery Disease</td>
<td>04 (50%)</td>
<td>07 (41.17%)</td>
</tr>
<tr>
<td>Flank staining</td>
<td>07 (87.50%)</td>
<td></td>
</tr>
<tr>
<td>Dyspepsia</td>
<td>11 (64.70%)</td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td>05 (29.41%)</td>
<td></td>
</tr>
</tbody>
</table>

TABLE – 2

Main tool of investigation was colour doppler ultrasound to confirm the diagnosis. Angiography was performed only in one patient in groups B and a CT scan for 2 patients in group B.

All the A.A.A. that we came across were infra renal and their size were 5-5.8cm in diameter and 7-11cm in length in group ‘A’ and 4.8-6.5cm in diameter and 5-10cm in length in Group ‘B’ patients. We lost 2 patients pre-operatively in group ‘A’ because we were not able to resuscitate them, 06 in Group ‘A’ underwent surgery and in Group ‘B’ all 17 underwent surgery. There were 2 (25%) inflammatory aneurysms in Group ‘A’ and 4 (23.52%) in Group ‘B’, where as over 76% were atherosclerotic in Group ‘B’ and 50% in Group ‘A’. All patients underwent surgery via a midline incision and transperitoneal approach. In majority of them bifurcation graft was used i.e. 80% (table 3).

In most of the cases inferior mesenteric artery was reimplanted because of good backflow.
### RESULTS

We divided these 25 patients in 2 groups i.e. Gp ‘A’ (Leaking A.A.A.) Group B (non leaking). All patients in Group ‘B’ (17) survived the operation and discharged home on the 10th to 12th post operative day. Table 4

**OUTCOME OF 25 CASES OF A.A.A.**

<table>
<thead>
<tr>
<th>Deaths pre op</th>
<th>Deaths post op</th>
<th>1 table death</th>
<th>2 Myocardial infarction</th>
<th>3 Graft thrombosis</th>
<th>Survived surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>= 02 (25%)</td>
<td>= 4/6 (50%)</td>
<td>= 01 (aorta duodenal fistula)</td>
<td>= 02 (1st and 5th post op day)</td>
<td>= 01 (4th post op day)</td>
<td>= 02 (25%)</td>
</tr>
</tbody>
</table>

**TABLE – 4**

In group ‘A’ A.A.A. 2 patients died preoperatively because we were not able to resuscitate them and they were in severe shock. 50% of operated patients in group ‘A’ died, one was a young girl of 18 years who had aorto-duodenal fistula though it was repaired. Graft was put in but we lost her on the table. Myocardial infarction was another (2/4) cause of post operative deaths in group ‘A’ patients one patient died on 4th post operation day, because of graft thrombosis.

### DISCUSSION

Atherosclerotic A.A.A. are common in elderly population and inflammatory aneurysms are common in younger people. As in the literature majority of the abdominal Aortic aneurysms are asymptomatic and may present with non specific symptoms like in our series. Abdominal pain radiating to back common symptom. It is important to know that increasing size of A.A.A. from 6cm can give rise to mortality of greater 75% over five years. Well before surgical treatment of A.A.A. was known; a study of 102 Patients who had documented A.A.A. by physical examination or plain x-rays of abdomen, one year survival rate was 60% and 19% at five years. 63% of these patients died of rupture of A.A.A. Approximately 25% of patients suffer from associated atherosclerotic occlusive disease, mostly a coronary arteries. However, these patients may also have associated hypertension, cerebrovascular and renovascular insufficiency. 90% of A.A.A. are infra-renal. In our study all A.A.A. were infra-renal.

Abdominal Aortic Aneurysms have been aptly nick named as U-BOAT of the abdomen. Surgeons are in a unique position to witness the catastrophic consequences of failing to detect these aneurysms or of postponing their repair. Typical operative mortality rates associated with leaking A.A.A. range between 55-87%, which is quite evident in our series too, with poor referral state, and very minimal post operation facilities.

Non-specific abdominal pain radiating to back, especially in the elderly, should not to be neglected. At least, a good quality lateral view x-ray of abdomen and dropper ultrasound can be done to screen out for A.A.A.

Death from rupture A.A.A can be reduced further only by operating on small
aneurysms or by operating electively on high risk patients and referring them to the appropriate center in time.

REFERENCES


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