

THE SYMPTOMLESS ABDOMINAL ANEURYSM—WHAT SHOULD BE DONE ABOUT IT?

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INTRODUCTION

IN A REVIEW of abdominal aneurysms treated in the Cardiovascular Unit of the Toronto General Hospital a plea is made by the author¹ for the surgical excision of symptomless abdominal aneurysms.

In this article an attempt will be made to give the reasons for advocating such a policy together with the results of operation on 20 patients.

The discovery of a symptomless abdominal aneurysm in a patient during the course of a routine medical examination is becoming increasingly common.

The reasons for this are probably threefold.

In the first place, the condition is one which develops in older patients and as the proportion of the population which reaches the advanced age group increases so will the number of aneurysms probably increase.

Secondly, physicians and surgeons are much more aware of the frequency with which such lesions, if looked for, are to be found.

Thirdly, whereas the discovery of an abdominal aneurysm a few years ago did little more than forbode an eventual disaster which nothing could circumvent, such is no longer the case.

What advice therefore should a doctor give when an abdominal aneurysm is discovered on routine physical examination of a patient?

Should nothing be said to the patient and a policy of "wait and watch" be adopted or should the patient be informed of the true state of affairs and advised that the aneurysm be removed surgically?

THE "WAIT AND WATCH" POLICY

Before the introduction of modern methods of excision of the abdominal aorta for aneurysms and aortic replacement by arterial grafting (for which much of the credit must go to DeBakey²), there was essentially no safe surgical method of treatment for an aortic aneurysm.

A doctor was therefore quite justified in saying nothing to the patient and waiting perhaps until symptoms of severe pain developed before considering a method of surgical treatment which was often of doubtful value and a formidable risk.

The main problem was probably the ethical one of withholding information from the patient and of deciding what to say to the relatives.

Today, the problem is quite different. It is a question of weighing up one calculated risk against another.

What then is the risk of *NOT* operating on a patient with a symptomless aneurysm?

The risk is that any abdominal aneurysm which can be diagnosed with relative certainty by abdominal palpation is probably fairly large and is liable to rupture at any moment without warning.

The results of treatment of ruptured abdominal aneurysms (whether intraperitoneal or extraperitoneal) in the Cardiovascular Unit at the Toronto General Hospital are as follows:

RUPTURED ABDOMINAL ANEURYSM

Number excised	21
Deaths	15
Survivors	6

One-third of those patients whose aneurysm ruptured had no symptoms prior to the catastrophic event.

If therefore we advise against operation for patients with a large or moderately large abdominal aneurysm, we accept the risk that they have probably one chance in three of rupturing at any moment without warning, and have about one chance in four of surviving such a complication if they can be transported in time to a hospital where such emergencies can be adequately handled.

On the other hand, it is not denied that many physicians can probably recall individual patients with a large abdominal aneurysm who have lived normal and pain-free lives for many years. The same is occasionally true of patients with an untreated carcinoma.

SURGICAL EXCISION

For the past three years the author has advocated a policy of surgical excision for symptomless abdominal aneurysm. The results to date are as follows:

SYMPTOMLESS ABDOMINAL ANEURYSM

Number excised	20
Operative deaths	nil
Postoperative deaths (to date)	nil

The fortunate results so far obtained should not, of course, lull one into a sense of false security or relegate the operation of aortic resection to that of a safe minor surgical procedure. There is no reason to suppose, however, that the good results of operation cannot be maintained in the future.

Furthermore, although the patients operated upon have been selected to some degree, the selection has been on common-sense grounds and operation has been refused only in the presence of

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some major and usually very obvious contraindication.

Of the 20 patients operated upon, one developed claudication of his left calf six months after surgery with probable complete or partial blockage of the left limb of his aortic graft. His symptoms are sufficiently mild that re-exploration would not be justified at the moment but may be necessary in the future.

SELECTION OF PATIENTS FOR OPERATION

Patients have been accepted for the operation of resection of a symptomless abdominal aneurysm if the following criteria were fulfilled.

1. Age

A patient of 85 years with a symptomless abdominal aneurysm is a subject for congratulations—no operation! The ideal age group for surgery is probably under 70 years of age. Our oldest patient was 75.

2. Cardiovascular Status

Here again a common-sense attitude must be adopted. Patients with a history of two or more coronary thromboses, or with angina or marked dyspnoea on exertion, are obviously not candidates for the type of operation under discussion.

3. Renal Function

The patient must have evidence of adequate renal function. Patients with only one functioning kidney should not be accepted.

4. General Physical and Mental State

Apart from the more specific criteria already mentioned, there remain the patient's general attitude to life, his normal degrees of activity, his motivation in wanting to live and to remain active and in good health.

Certain types of individual are not mentally equipped to face up to the knowledge that they harbour what may be a serious and lethal condition which can only be put right by a major operation. It is the job of the family physician to recognize such individuals and in such cases it would probably be best to postpone surgical advice even though the risks of postponement be recognized.

5. Size of the Aneurysm

It is true that the larger the abdominal aneurysm, the more dangerous it is. Is it safe therefore to leave a small symptomless aneurysm alone?

This immediately raises the question as to how big the aneurysm should be before it should be

operated upon. Probably the simplest answer to this is that the abdominal aneurysm which can be detected clinically with reasonable certainty has probably reached a size which makes its removal advisable.

The mistake most likely to be made is in diagnosing an abdominal aneurysm in a thin person when it does not exist and missing quite a large one in a fat person because you cannot easily determine its presence. In either case however, further investigation, possibly including aortography, will provide the answer.

LONG-TERM RESULTS

Although the maximum follow-up time in this series of aortic resection for symptomless abdominal aneurysm was only three years, we know that patients with symptoms from an aneurysm who have had the operation have done very well over the five-year period since we started to perform this operation in Toronto. Their aortic grafts have remained patent and have functioned well. There is no reason to suspect that those operated upon at an earlier stage in their disease will not have just as good a long-term prognosis, if not a better.

SUMMARY

The dangers of a symptomless abdominal aneurysm are recorded, and the relative safety of resection of such aneurysms is noted. A plea is made therefore for the surgical removal of symptomless abdominal aneurysms in suitably selected cases.

REFERENCES

1. KEY, J. A., BIGELOW, W. G. AND FARBER, E. P.: *Surgery*, 47: 74, 1960.
2. DEBAKEY, M. E. et al.: *Ann. Surg.*, 148: 306, 1958.

RÉSUMÉ

La découverte fortuite d'un anévrisme abdominal silencieux devient de plus en plus fréquente probablement à cause du nombre croissant de malades âgés, d'une plus grande connaissance de cette lésion de la part des médecins et des chirurgiens et enfin des possibilités thérapeutiques qu'offre maintenant la chirurgie à ces malades. Quelle est la conduite à suivre dans ces circonstances? On pouvait jadis se permettre de constater le fait sans en informer le malade puisque la lésion était incurable mais de nos jours le problème consiste à évaluer deux risques et à choisir le moindre: à savoir, celui de laisser évoluer la lésion sans y toucher et celui d'intervenir par excision. La première solution comporte un risque de 33% de rupture sans signe prémonitoire et cette complication elle-même comporte 75% de mortalité. Pour ce qui est de la seconde solution, une revue de 20 malades opérés à l'Hôpital Général de Toronto montre qu'il n'y eut aucune mortalité opératoire ou postopératoire (à date). L'auteur se hâte d'ajouter qu'il ne faut pas se laisser leurrer par ces résultats mais avec une technique bien à point et des malades judicieusement choisis l'intervention n'en présente pas moins beaucoup d'intérêt thérapeutique. Parmi les critères qui doivent présider au choix des malades l'auteur suggère que la limite d'âge maximum soit établie à 70 ans; que, la lésion mise à part, l'état cardio-vasculaire du malade soit satisfaisant; que ses deux reins fonctionnent bien et que l'état général et l'attitude mentale soient encourageants. Les dimensions de l'anévrisme entrent aussi en ligne de compte. Il semble que tout anévrisme que l'on peut palper à travers la paroi abdominale soit assez gros pour être dangereux et mériter résection.