INVITED COMMENTARY

Unfit for Repair After Screening for Abdominal Aortic Aneurysm: Do We Fail to Fulfil the Basic WHO Criterion of an Available Treatment?

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In this edition of EJVES, the Gloucester group report that 18% of screen diagnosed cases of abdominal aortic aneurysms (AAAs) in need of preventive repair haven't received repair after 3 months; 22% of these received repair later on with no 30 day post-operative deaths, so the final turn down rate was 13%.[1] The reasons are not given, but could be a sign of a kind of "intelligent waiting" where you take the chance of repair if progression is worrying, weak symptoms develop, or health conditions improve.

However, "intelligent waiting" is a dangerous strategy because about 20% of patients in the current report experienced rupture. Clearly, earlier intervention seems more attractive. In addition, three major questions arise from this report if generalisation is possible.

When we created a model to evaluate cost-effectiveness of screening for AAA in a modern context, we needed to know the proportion not repaired, and studied the four AAA screening randomised controlled trials; 15% didn't receive repair.[2,3] However, these figures are mainly from the 1990s when the operative risk was 5% before endovascular aneurysm repair and the knowledge that treatment of screen detected cases carries a one third risk compared with incidentally detected cases.[4] However, initial results from the British National AAA screening programme (BNASP) reported that 26% of 417 referred patients weren't yet repaired, and although probably biased by other factors, the proportion seems very high.[5]

The first major question to be raised is whether screening is still beneficial and cost-effective. As mentioned, such rejection fractions for repair were also seen in the MASS and Viborg trials, both of which have reported efficient and cost-effective screening programmes. In order to evaluate the consequences in a modern context,[2] we ran sensitivity analyses of our modern model in which the originally used unfit proportion was exchanged with the proportions reported from Gloucester and the BNASP, respectively. It showed decreased efficacy from 32% to 30% and 23% reduced AAA specific mortality, respectively. Whether it remains cost-effective needs further time consuming calculations to clarify.

A second major question to be raised is whether one of five or higher deemed unfit initially is acceptable according to the fundamental criteria for screening formulated by the WHO. Although some of them receive repair later, the initial refusal leaves the patients with the knowledge of having a life threatening condition with the obvious risk of losing life and quality of life. However, it seems to be correctable as the potentially maintained high rejection rate is combined with a tremendous decline in the operative risk from about 5% to about 1%.[4]

We must not forget when the size criterion of 55 mm is met the condition is life threatening. If we assume the median size of referred AAAs is 6 cm and such an AAA carries an annual rupture risk of 10% with 75% overall mortality,[2,6] then survival curves of early surgery populations will cross those deemed unfit after just 1 year if the operative risk is as high as 7.5%.

Modern public surveillance of results and risk of audits may have triggered this development, especially in Great Britain where individual surgeon outcomes are published.[7]

Consequently, the third major question is whether we as vascular surgeons have failed by continuing to select people to repair using outdated criteria that are no longer balanced by the decreased risk of repair?

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