



SCREENING FOR ABDOMINAL AORTIC ANEURYSM IN GERIATRIC POPULATION

YAŞLI TOPLUMDA ABDOMİNAL ANEVİRİZMA TARAMASI

GERIATRIC AND ANEURYSM

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Öz

Amaç: Abdominal aort anevrizması (AAA) tanı konmakta gecikilen durumlarda ölümlerle sonuçlanabilen, yaygın olmayan, erkek cinsiyet, yaş ve sigaranın en önemli risk faktörü olarak görüldüğü bir durumdur. Bu çalışma anevrizma mevcut olan ve ölen 4 yaşlı hasta nedeniyle taramanın gerekliliğini vurgulamak amaçlı yapıldı. Gereç ve Yöntem: Acil servisteki ve huzurevindeki 320 olgu çalışmaya dâhil edildi. Abdominal aort çapları ölçülüp risk faktörleri ile birlikte incelendi. Bulgular: Çalışmaya alınan hastaların 232'si (%72.5) erkek, ortalama yaşları 75.65± 7.76(62-95) idi. Hipertansiyon en sık görülen risk faktörü olarak belirlendi. Ortalama aort çapı 18.87± 2.74(15-26mm) tespit edildi. Risk faktörleri, yaş grupları ve aort çapları arasında tek başına AAA için anlamlılık tespit edilmedi. AAA tespit edilen 4 olgu öldü. Tartışma: AAA anevrizmalar arasında sık görülen bir türdür. En sık görülen risk faktörleri erkek cinsiyet, yaş, sigara öyküsü ve 65 yaş üstü olmaktadır. İleri yaşlı özellikle erkek olgular rüptür riskini azaltmak için taranmalıdır. Olgular risk faktörleri de göz önüne alınarak cerrahi girişim açısından değerlendirilmelidir. Yapılacak geniş çaplı tarama çalışmalarını ölüm riskini azaltabilir.

Anahtar Kelimeler

Abdominal Aort Anevrizması; Risk Faktörleri; Ölüm; Tarama

Abstract

Aim: An abdominal aortic aneurysm (AAA) is uncommon in people. Male gender and smoking are the most important risk factors. AAA is a condition that may be fatal when diagnosis is delayed. This study aimed to emphasize the necessity for screening due to four fatal cases with abdominal aortic aneurysm in a geriatric population. Material and Method: The study included 320 patients from a nursing home and an emergency department. The diameters of abdominal aortas were measured and assessed for risk factors. Results: Of the patients, 232 (72.5%) were male and the mean age was 75.65±7.76 (range: 62-95 years). Hypertension was the most frequent risk factor determined. Mean aortic diameter was found as 18.87 ± 2.74 mm (range: 15-26 mm). No significant associations were detected among risk factors, age groups, and aortic diameter. Four cases with abdominal aortic aneurysm died. Discussion: AAA is the most frequently seen aneurysm among true aneurysms. Major risk factors for AAA include male gender, smoking history, and age >65 years. In advanced ages, particularly in men, screening for AAA reduced deaths caused by rupture. The patients should be assessed for surgical intervention by taking risk factors into consideration. Large-scale screening studies can reduce risk for mortality.

Keywords

Abdominal Aortic Aneurysm; Risk Factors; Death; Screening

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Introduction

Abdominal aortic aneurysm (AAA) is defined as a doubling of the diameter of the abdominal aorta or an aortic diameter >30 mm (Figure 1). Male gender and smoking are the most important risk factors for AAA. AAA should be considered in patients who present with a pulsatile abdominal mass, abdominal pain, and shock. Sonography is a readily available and rapid diagnostic tool in the diagnosis of AAA [1]. AAA can be fatal when diagnosis is delayed. Screening can allow for early diagnosis in elder population because AAA is more frequently seen in elderly patients with known risk factors. This study aimed to emphasize the necessity for screening due to four fatal cases with abdominal aortic aneurysm in our study population.

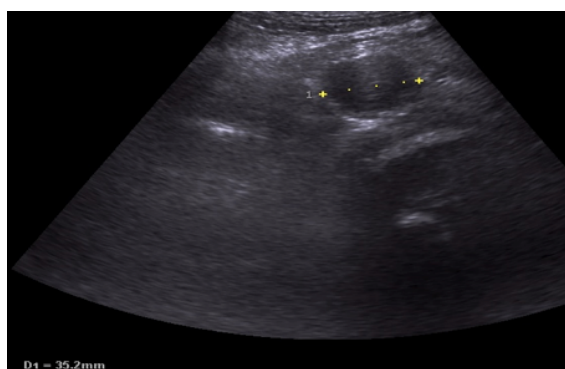


Figure 1. Diameter of abdominal aorta was measured by using portable ultrasound device.

Material and Method

In this study, we prospectively assessed 320 individuals living in a nursing home and those in an emergency department. The patients included were assessed regarding age, gender, smoking, hypertension, diabetes mellitus, history of cardiac or pulmonary disease, and previous history of surgery. Diameters of abdominal aortas were measured by using a portable ultrasound device (Mindray M5). Data were analyzed using SPSS version 16.0. The associations between aortic diameters and risk factors and age groups were assessed. Independent variables were analyzed using the Mann Whitney U test. A p value <0.05 was considered to be significant.

Results

Of the patients included, 232 (72.5%) were male and 88 (27.5%) were women. The mean age was 75.65±7.76 (range: 62-95 years) (Table 1).

Hypertension, smoking, heart disease, diabetes mellitus, previous history of surgery, and pulmonary disorders were assessed as risk factors. Hypertension (n=120; 37.5%) was found to be the most frequent risk factor (Table 2).

After patient fasting, the aortic diameter was measured at the supine position by using a portable ultrasound. Mean aortic diameter was found as 18.87±2.74 mm (range: 15-26 mm). No significant associations were detected among risk factors, age groups, and aortic diameter. AAA was detected in four of the patients with an aortic diameter >30 mm. Risk factors were assessed regarding their relationship with age groups and aortic

diameter separately. No significant association was detected between risk factors and age groups or aortic diameters (Table 2).

During follow-up, it was found that the four of the study patients with AAA died due to aortic dissection and rupture.

Table 1. Distribution of age groups in study population

Age	n	%
60-64	16	10.0
65-70	36	22.5
71-75	16	10.0
76-80	64	40.0
81-100	28	17.5
Total	160	100

Table 2. Assessment of aortic diameter, age groups and risk factors

Risk factors	n	%	P value (aortic diameter)	P value (age groups)
Hypertension	60	37.5	1.000	0.678
Smoking	52	32.5	0.892	0.241
Heart disease	48	30.0	0.889	0.678
Diabetes mellitus	28	17.5	0.867	1.000
History of surgery	16	10.0	0.671	0.176
Pulmonary disease	12	7.5	0.333	0.294

Discussion

AAA is the most frequently seen aneurysm among true aneurysms. It has been reported that AAA is seen in 2-10% of patients aged >50 years [1,2]. It was reported that AAA incidence is increased in patients aged >65 years; the rate is 10% in patients aged >74 years [3-5]. Individuals living in a nursing home and those who report to emergency departments are considered a risk group that should be screened for chronic disorders, risk for cardiovascular diseases, and complications. Thus, we determined risk factors and screened for AAA, using sonography, in patients aged >65 years and residing in a nursing home or reporting to emergency departments.

Major risk factors for AAA include male gender, smoking history, and aged >65 years. Male gender and advanced age are the most important risk factors [4]. In addition, minor risk factors include family history, hypertension, coronary artery disease (CAD), hypercholesterolemia, obesity, and cerebrovascular disease [1]. In previous studies, AAA rates of male and female genders were suggested to be different, indicating that both genders should be screened [1,6].

If timely diagnosis of AAA is not made, fatal complications such as rupture, embolism, and dissection can develop. It has been reported that AAA accounts for 1-3% of all deaths among men aged 65-85 years [7]. Overall operative mortality is 5% but it is 50% in AAA [8]. Overall mortality is 85-95% in cases of AAA rupture [4,9]. There were four patients, two men and two women, with aneurysm in our study. The only known risk factor in these patients was smoking.

Early recognition of potentially fatal cardiovascular diseases in elderly individuals and taking required measures is essential.

Thus, early diagnosis is important in AAA. Identifying risk factors can be a guide for screening [4]. The main goal of screening is to prevent fatal complications such as rupture, embolism, and dissection. In advanced ages, particularly in men, screening for AAA has reduced deaths caused by rupture. Moreover, it is suggested that screening of patients with risk factors is relatively inexpensive [3-5,8,10,11]. Thus, screening can improve quality of life and can reduce mortality risk.

Conclusions

Elderly individuals, smokers, and men in particular should be screened for AAA. The cases with AAA should be assessed for surgical intervention by taking risk factors into consideration. Large-scale screening studies can reduce mortality risk.

Competing interests

The authors declare that they have no competing interests.

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