ENDOVASCULAR TREATMENT OF ABDOMINAL AORTIC ANEURYSM: IMPACT OF DIABETES ON ENDOLEAKS AND REINTERVENTION

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OBJECTIVE:

To identify the impact of diabetes on post-endovascular aneurysm repairs of abdominal aortic aneurysms

MATERIALS & METHODS:

It concerns 324 patients studied retrospectively, who underwent elective EVAR for AAA between March 1998 and October 2016. Patients were mainly male (97.2%), with an average sample age of 73.4 years. Based on their diabetes status, patients were divided in two groups “Diabetics” and “Non-diabetics” and compared. Chi-square Test or Fisher's exact Test for qualitative variables, and variance analysis (ANOVA) or Kruskal-Wallis Test for continuous variables was used.

Characteristics of AAA patients at study entry (Baseline)

	Diabetics 57 (23%)	NON diabetics 191 (77%)	P-value
Gender	56 men (98,2%)	185 men (96,9%))	0,99
Age (mean)	72	73,7	0,16
Smoking history	32 former smokers (56,1%) 18 current smokers (31,6%)	108 former smokers (56,8%) 52 current smokers (27,4%)	0,73
Dyslipidemia	46 (82,1%)	119 (62,6%)	0,0063
Aneurysm diameters (mean)	59,4 mm	58,1 mm	0,32
PVD	16 (28,1%)	29 (15,3%)	0,029

RESULTS

Aneurysm sac regression trended to be more important for non-diabetics patients (-0.24 ± 0.013 vs. -0.18 ± 0.027, p=0.059). The risk of endoleaks was similar in both groups (38.7% vs. 43.9%, p=0.74). The identified endoleak risk factors were age (HR=1.04, p=0.014) and fibrates ((HR=3.12, p=0.043). Dyslipidemia (HR=3.01, p=0.0060) and sulfonylureas (HR=8.43, p=0.043) decreased endoleaks duration, whereas diabetes (HR=0.080, p=0.038) and beta-blockers (HR=0.46, p=0.036) increased it. Reintervention probability was similar in both cohort and decreased with a more recent operation (Odd Ratio=0.90, Pr>ChiSq=0.0400).

	Diabetics 57 (23%)	NON diabetics 191 (77%)	P-value
Mortality - AAA related - Others	0 (0%) 15 (26,3%)	2 (1%) 87 (45,5%)	0,0092
Aneurysm sac shrinkage during the first 60 months	**slope : -0.18 ± 0.027**	**slope : -0.24 ± 0.013**	**0.059**
Aneurysm sac enlargement (≥5mm)	5 (8,8%)	17 (8,9%)	0.83
Endoleaks	25 (43,9%)	74 (38,7%)	0,74
Type II Endoleaks	24 (42,1%)	66 (34,6%)	0.35
Late Type 2 Endoleaks occurence	10 (41,7%)	31 (47%)	0,81
Median life lenght of endoleak	60,7 months	24,1 months	0,31
Average life lenght of endoleak	37,6 months	33 months	0,7

Multivariate analysis of endoleaks life length

	Increase endoleak duration		Decrease endoleak duration	
Variables	Diabetes	B-Blockers	Dyslipidemia	Sulfonylureas
Pr > ChiSq	0,038	0,036	0,0060	0,043

CONCLUSIONS

With the results of our study, several conclusions can be drawn:

1. Diabetes increase life expectancy of endoleaks, whereas sulfonylureas and dyslipidemia decrease it.
2. Diabetes seems to slow down the regression of the aneurysm sac.