

INTRODUCTION

The ADA recommends statin use in diabetic patients > 40 y.o. with multiple cardiovascular risk factors. Coronary artery calcium (CAC) is a very sensitive surrogate of CAD and is a powerful and independent predictor of mortality and cardiac events. In this retrospective study, we aimed to report the prevalence of CAC among those < 40 y.o. and to describe the determinants of CAC in diabetics.

METHODS

The charts of 2142 diabetic patients who had undergone CAC scoring at our center were reviewed. Their clinical and demographic data were collected. CAC score (CAC) was categorized into CAC 0= normal, 1-99 low, 100-399 intermediate and >=400 severe, and statistical analysis was performed.

RESULTS

- Overall prevalence of CACS was 83%.
- In those < 40 y.o, prevalence of CACS was 45%, none >400 (severe).
- Median CACS increased with age, with median CACS >100 in patients > 61-65 y.o, (our mean and median age).
- Age was found to be a confounding risk factor in ethnicity median CACS.
- Male gender and hypertensive patients had statistically significant (SS) higher median CACS (p<0.001).
- Odds ratios (OR) calculated for low, intermediate, and high CACS values compared to age can be seen in Table 1; and compared to female gender were 0.525 (p<0.003), 0.328 (p<0.001), and 0.180 (p<0.001), respectively.
- SS difference in median CACS were not associated with family hx of CAD (p<0.177) nor smoking (p<0.185).
- OR for intermediate and high CACS compared to non-hypertensives were 0.496 (p<0.006) and 0.477 (p<0.002), respectively.

DATA

Table 1: CACS vs. AGE

| <u>CACS</u> | <u>Confidence Intervals</u> | <u>Odds Ratio</u> | <u>p-value</u> |
|--------------|-----------------------------|-------------------|----------------|
| LOW | 1.024 -1.068 | 1.046 | p<0.001 |
| INTERMEDIATE | 1.073 -1.126 | 1.099 | p<0.001 |
| HIGH | 1.094 -1.145 | 1.119 | p<0.001 |

Table 1 demonstrates a statistically significant association in diabetics with low, intermediate, and high CAC scores and older age.

CONCLUSIONS

CACS was markedly higher in male diabetics and hypertensive-diabetic patients independent of any other risk factor. Age in diabetic patients had a minor, but significant role with regards to CAC. Future studies on the prevalence of CAC by age are needed to address two important conclusions:

1. 45% of young diabetics had CACS, despite guidelines that suggest statins should be started in diabetics > 40 y.o.
2. Not all diabetics have CAC – perhaps guidelines for diabetics should include a measure of atherosclerosis for better risk stratification.

REFERENCES

1. <http://www.diabetes.org/for-media/2005-press-releases/Treating-Diabetes.jsp>