

Is there Gender Difference in Younger Patients (<40 years) with Coronary Artery Spasm without Significant Coronary Artery Lesion?

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Background: Gender can be a significant impact on the cardiovascular disease and its manifestations. We investigated whether the gender difference in the younger patients (pts, age <40 years) can adversely impact on significant coronary artery spasm (CAS) Methods: A total 157 consecutive younger patients (pts, age <40 years) without significant coronary artery disease (CAD) who underwent the Ach provocation test by injecting incremental doses of 20, 50, 100 ug into the left coronary artery. Significant CAS was defined as focal or diffuse severe transient luminal narrowing (>70%) with/without chest pain or ST-T change on ECG. Results: The clinical and angiographic characteristics were similar between two groups. Spasm at the baseline angiogram and after Ach injection, the rate of positive provocation test results, incidence of diffuse spasm and more severe spasm were similar in both gender. Even after the multivariate logistic analysis, gender was not an independent risk factor (odd ratio; 0.64, 95% confidence interval; 0.263- 01.56, p=0.327,) Conclusion: In our study, there was no gender difference in the prediction for significant CAS.

**Table. Acetylcholine provocation test and associated parameters in younger pts (<40 years)**

| Variables, n (%)                 | Female<br>(n=51 pts) | Male<br>(n=106 pts) | P value |
|----------------------------------|----------------------|---------------------|---------|
| Age (years)                      | 31.2 ± 6.7           | 31.0 ± 7.2          | 0.88    |
| Hypertension                     | 6 (10.5)             | 43 (36.4)           | 0.0001  |
| Smoking                          | 4 (7.0)              | 66 (55.9)           | 0.0001  |
| Hyperlipidemia                   | 22 (43.1)            | 59 (55.7)           | 0.17    |
| Ach Provocation (+)              | 23 (40.4)            | 42 (35.6)           | 0.32*   |
| Myocardial Bridge                | 10 (19.6)            | 31 (29.2)           | 0.24    |
| ST-T change                      | 0 (0.0)              | 2 (1.7)             | 0.98*   |
| Ischemic Chest pain              | 23 (45.1)            | 29(27.4)            | 0.23*   |
| Ach dose for (+) Provocation     |                      |                     |         |
| A1 (20µg)                        | 0 (0)                | 3 (2.5)             | 0.55    |
| A2 (50µg)                        | 12 (21.1)            | 22 (18.6)           | 0.87    |
| A3 (100µg)                       | 42 (73.7)            | 87 (73.7)           | 0.94    |
| Spasm after Ach injection        |                      |                     |         |
| Focal                            | 5 (8.8)              | 14 (11.9)           | 0.80*   |
| Diffuse                          | 47(92.2)             | 96 (90.6)           | 0.80*   |
| Severe stenosis after Ach (>70%) | 6 (11.8)             | 13(12.3)            | 0.50    |

\*(On multivariate analysis)