Reduced risk of aortic aneurysms associated with fluoroquinolone therapy

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Background. Aortic diseases pose an important morbidity and mortality risk. The use of fluoroquinolones has been associated with an increased risk of aortic aneurism. The aim was to evaluate the relationship between fluoroquinolone therapy and the risk of developing aortic aneurysms or dissections in a population affiliated with the Colombian Health System. Methods. A case-control study using a systematized database with Colombian Health System affiliates. Patients with diagnoses of aortic aneurysms and aortic dissection were selected as cases, and four controls were matched to each case. Past, or any prior-year use of fluoroquinolone. The periods of fluoroquinolone exposure were divided into recent (30 days prior to diagnosis) and prior (between 31 and 365 days prior to diagnosis) exposures. The main outcomes and measures was the risk of developing aortic aneurysm or dissection. Results. We identified 847 cases and 3388 controls. The mean age was 68.0 years, and 52.4% of the patients were male. We identified 79 cases and 446 controls exposed to fluoroquinolones. Statistical analysis indicated that fluoroquinolones were associated with protection against developing aneurysms (OR: 0.68; 95% CI: 0.55-0.85). This association was conserved in the conditional logistic regression model, for prior fluoroquinolone exposure and for patients of any age. Conclusions. Previous use of fluoroquinolones was associated with providing a protective factor greater than 30% for the development of aneurysms. Additional studies are needed to clarify the effect that these antibiotics have on the development of aneurysms and aortic dissections and the underlying mechanisms.

Table 1. Characteristics of the aortic dissection and aneurysm cases and their respective controls, Colombia 2015.