
Cancer and Risk of Atrial Fibrillation in General Population: a Systematic Review and Meta-analysis

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Short title: Cancer and Risk of Atrial Fibrillation

Conflict of interest: None to declare

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Abstract

Background—Previous studies have demonstrated an association between cancer and the development of new onset atrial fibrillation (AF). However, these results have been conflicting. This systematic review and meta-analysis was conducted to examine the relationship between cancer and the risk of developing AF.

Methods and Results—PubMed and Web of Science were searched for publications examining the association between cancer and AF risk published until September 2016. Adjusted odds ratios (ORs) or hazard ratios (HRs) and 95% CI were extracted and pooled. A total of seven studies involving 5,890,481 subjects were included in this meta-analysis. Solid Cancer patients are at higher risk developing AF compared to non-cancer patients (OR 1.51, 95% CI 1.32 to 1.73, $p < 0.00001$; $I^2 = 70\%$, $p = 0.005$) (Figure 1). The risk of AF was highest within 90 days of cancer diagnosis (OR 7.62, 95% CI 3.08 to 18.88, $p < 0.0001$) and this risk diminished with time.

Conclusions—Cancer is associated with an increased risk of AF but only within the first 90 days of a cancer diagnosis. The findings will have important implications on possible initiation of anti-coagulation treatment in this high risk period.

Key-words: atrial fibrillation; cancer; colorectal; breast.

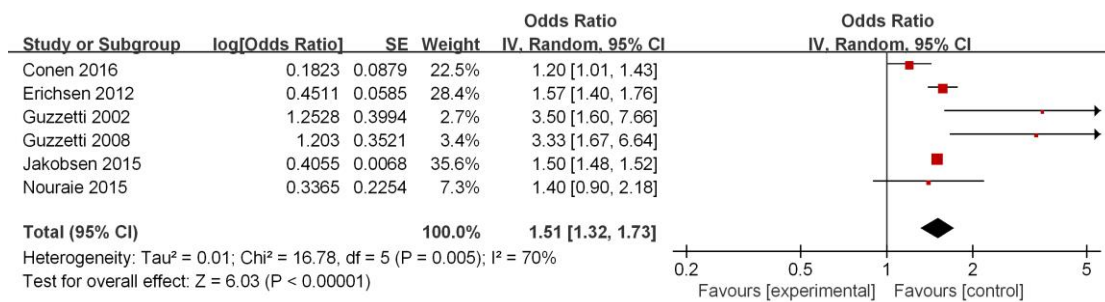


Figure 1 Forest plot show pooled estimates of the odds ratio (ORs) for the association between cancer and atrial fibrillation