

## **Abstract**

### **Aim:**

This research was conducted to evaluate the mortality outcome of cancer patients with new-onset atrial fibrillation. We also aimed to assess if there was any confounding relation between the mortality of these patients and surgical intervention.

### **Materials and Methods:**

A systemic search was conducted from electronic databases (PubMed/Medline, Cochrane Library, and Google Scholar) from inception to 7 February 2022. All statistical analyses were conducted in Review Manager 5.4.1. Studies meeting inclusion criteria were selected. Only those studies that involved cancer patients without pre-existing atrial fibrillation were selected, and mortality rate was compared between the patients who developed atrial fibrillation and those who did not. A random-effect model was used when heterogeneity was seen to pool the studies, and the result was reported in the odds ratio (OR) and the corresponding 95% confidence interval (CI).

### **Results:**

Eighteen studies were selected for meta-analysis. Statistical analysis showed that the cancer patients who subsequently developed atrial fibrillation had a significantly higher mortality rate as compared to those who did not (OR = 1.90 [1.65, 2.19];  $p < 0.00001$ ;  $I^2 = 100\%$ ). We also separately analyzed the mortality risk in the surgery group and the non-surgery group. Statistical analysis showed that there was significantly higher mortality rate associated with new-onset atrial fibrillation in cancer patients in the surgery group (OR= 3.68 [2.29, 5.94];  $p < 0.00001$ ;  $I^2 = 61\%$ ) as well as in the non-surgery group (OR = 1.64 [1.39, 1.93];  $p < 0.00001$ ;  $I^2 = 100\%$ ).

### **Conclusion:**

Cancer patients, who subsequently developed atrial fibrillation, had a higher mortality rate as compared to those cancer patients who did not develop atrial fibrillation. A higher mortality rate was seen in both surgical and non-surgical subgroups. This implies that extra care and specific measures must be taken in the management of cancer patients with new-onset atrial fibrillation.