[Reviewer #1]

This retrospective study is the large population-based study investigating the association between IBD and the incidence of AF in Asian cohort. The Authors reported that IBD was associated with an increased risk of AF, both CD and UC increase the risk of AF, with a higher risk in patients with CD than UC. And also patients receiving immune-modulators, systemic corticosteroids, and/or biological agents showed a higher risk of AF, and the relative risk of IBD for the development of AF was particularly high in younger patients and in those without cardiovascular risk factors. In this study, results are important and give us valuable information. However, I have some comments. In the discussion section, subtitles like “Major findings, Inflammatory bowel disease serves as an independent risk factor for the development of atrial fibrillation, …, Risk of incident atrial fibrillation in patients with inflammatory bowel disease based on ethnicity” should be omitted. Discussion section should be changed to formal structure as accordance with common literatures. This study is acceptable for publication after arrangements according to recommendations.

***Response*:** We appreciate the reviewer’s comments. As the reviewer commented, we removed the subtitles in the discussion section.

[Reviewer #2]

The study of Choi et al is an interesting study that reports association between AF occurrence and IBD in a case-control study. They surprisingly showed no increased association with age and classical cardiovascular risk factors in these patients. The association was stronger with CD, and in individuals with more severe forms of disease, although they did not have specific information to determine the severity of the disease. Methods: Page 7: Rewrite in methods what was considered mild-moderate IBD, and moderate severe disease. -Did the authors have the information of which patients performed major surgery? And if AF occurred in perioperative period this variable should be adjusted in the multivariate analysis. Discussion -The authors need to address an interesting aspect of their findings why older individuals and those with classical risk factors and IBD did not have and greater risk in relation to those with IBD and without cardiovascular risk factors . -What was the loss of information of participants in the study?

***Response*:** Thank you for the constructive comment. We have addressed specific information on how we defined the severity of inflammatory bowel disease (IBD) in detail.

Methods, Covariates (page 7)
Of note, 5-aminosalicylic acid (5-ASA) is the preferred primary drug used to treat mild-to-moderate IBD in Asians, while drugs such as immunomodulators, systemic corticosteroids, and/or biological agents are recommended as first- or second-line therapy for severe IBD. Additional, 5-ASA alone is not used to treat moderate-to-severe IBD [15]. Therefore, we estimated the severity of IBD based on a previous report of describing treatment of IBD; those receiving systemic corticosteroids in combination with 5-ASA, immunomodulators (azathioprine, methotrexate, cyclosporine, and tacrolimus) or biological agents (infliximab, adalimumab, and golimumab) were classified as having moderate-to-severe IBD in this study [16].

Unfortunately, we did not have a dataset on major surgical intervention. And, it is difficult to define subtype AF such as not only paroxysmal, persistent, and permanent AF, but also perioperative atrial fibrillation in the claim database. Thus, we have described the limitation of the definition by using the ICD-10 code in the Limitation section.

Limitations (page 13)

Secondly, the definitions of diseases were determined using ICD-10-CM codes of claims data from the NHIS database. Misclassification is a potential bias when using diagnostic codes. Also, when determining cases of IBD, the ascertainment bias could be induced depending on the patient's residences. Additionally, the detail information on AF subtypes such as paroxysmal, persistent, permanent, and perioperative AF could not be accurately identified in our database.

As the reviewer commented, it is interesting that the risk of AF was higher in patients without classical risk factors of AF. IBD is a relatively young age-related disease, and thus activity is more severe in younger patients than in elderly patients (Inflamm Bowel Dis. 2015 Mar;21(3):623-30.). Thus, our findings that the relationship between IBD and AF was higher in younger patients than in patients with older and/or with classic risk factors suggested that systemic inflammatory disease is one of the mechanisms contributing to the development of AF. We have addressed in detail the revised manuscript.

Discussion (page 12)

In the present study, the prevalence of AF showed a peak at a younger age, and the association between IBD and the development of AF gradually became weaker with increasing age. These findings suggested that systemic inflammatory disease is one of the mechanisms contributing to the development of AF different from classic risk factors.

[Reviewer #3]

Unfortunately the manuscript can not provide informations about clinical data (e.g. time-curse and activity of the diseases, laboratory data, time duration of treatment modalities) and their relationship with IBD.

***Response*:** Thank you for your comments. What the reviewer pointed out is the major limitation of the nationwide population-based study. Therefore, we have mentioned in detail the limitation section in the revised manuscript.

Limitation (page 13)
The primary limitation of this study is the observational population-based retrospective design, which does not permit specific determination of the severity of IBD. Therefore, detailed information regarding the severity, extent, location, and activity of the IBD, laboratory data, and duration of treatment modalities were not available in our study.