IMMUNE CHECKPOINT-INHIBITORS ARE ASSOCIATED WITH A HIGHER RISK OF GASTRITIS: A NATIONWIDE POPULATION-WIDE STUDY

A. ELTELBANY [1], K. ALCHIRAZI [1], Y. ABU OMAR [1], R. NANAH [1], M. SANAKA [1] and P. THOTA [1]

1 Cleveland Clinic Foundation, Cleveland, Ohio, USA

Background:

- Immune checkpoint-inhibitors (ICIs) improve the survival in certain cancers.
- Little is known about their gastric toxicity.
- We investigated the epidemiology of ICI-induced gastritis and describe underlying associations.

Methods:

- Commercial database (Explorys Inc, Cleveland, OH) with 26 major integrated US healthcare systems.
- A cohort of patients who were on ICIs (nivolumab, pembrolizumab, ipilimumab and atezolizumab)
- Conducted between 2011 and 2022
- Patients who developed new diagnosis of gastritis after taking ICIs were selected.

Variable	Patients who received ICI		Patients with Gastritis who did not receive ICI
	ICI without Gastritis	ICI-Induced Gastritis	
Age			
18 -65	5,670 (38%)	830 (37%)	2,084,920 (63%)
>65	9,380 (63%)	1,450 (64%)	1,233,140 (37%)
Female	6,140 (41%)	130 (50%)	2,024,260 (61%)
Race			
Caucasian	12,460 (83%)	1,950 (86%)	2,358,850 (71%)
Others	2,510 (17%)	310 (14%)	974,020 (29%)
Co-morbidities:			
Hypertension	10,370 (69%)	1,760 (78%)	1,683,440 (51%)
T2DM	4,060 (27%)	750 (33%)	746,180 (22%)
Hyperlipidemia	8,700 (58%)	1,550 (69%)	1,479,420 (44%)
Obesity	3,180 (21%)	670 (30%)	814,320 (24%)
CAD	4,250 (28%)	770 (34%)	561,050 (17%)
GERD	5,210 (35%)	1,240 (55%)	1,451,590 (44%)

Table 1: Baseline Characteristics of Patients Receiving ICIs

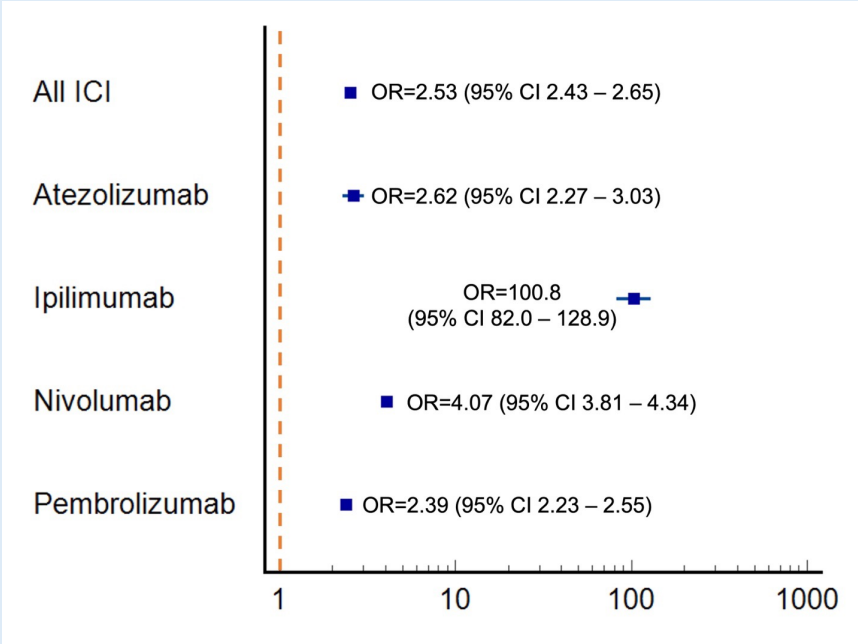

Figure 1: Odds Ratio with 95% Confidence Interval of Immune Checkpoint Inhibitor-Induced Gastritis

Results:

- 20,200 patients had a history of ICI use
- 2260 (11.2%) patients developed a new diagnosis of ICI-induced gastritis
- Patients with ICI use and gastritis were more likely to be female [OR: 1.18; 95% CI 1.08–1.29].
- Patients were more likely to be Caucasian [OR: 1.27; 95% CI 1.12–1.44]
- Patients who received any ICI had a significantly higher risk of gastritis [OR: 2.53; 95% CI 2.43–2.65].
- Patients who received Ipilimumab had the highest odds of developing ICI-induced gastritis (Figure 1).

Discussion:

- Patients taking ICI have a higher risk of gastritis.
- Ipilimumab poses the greatest risk for ICI-induced for gastritis.
- The risk of gastritis should be discussed with all patients prior to initiating an ICI.