SupplementaryTable 1: Baseline data of patients in retrospective case–control study.

Items	**CG-NoGC (*n* = 17)**	**IM-NoGC (*n* = 17)**	**IM-GC (*n* = 17)**	**GC (*n* = 17)**
Age ($\bar{X} \pm SD$)	60 ± 6.32	60.06 ± 6.18	60 ± 6.15	62.26 ± 6.54
Gender (male/female)	14/3	14/3	14/3	14/3
*Helicobacter pylori*infection	5	3	3	-
Degree of atrophy or IM (mile/moderate/severe)	4/9/1	6/7/4	6/4/7	-
Canceration time (median [IQR])	-	-	-	2.09(0.92–3.25)
Neoplasm staging				
T(1/2/4/X)	-	-	-	11/2/2/2
N(0/3/X)	-	-	-	5/2/10
Tumor location(antrum or angle/body/cardia/diffuse)	-	-	-	7/5/4/1

CG:Chronic gastritis; CG-NoGC:Chronic gastritis not progressing to gastric cancer; GC:Gastric cancer; IM:Intestinal metaplasia; IM-GC: Intestinal metaplasia progressing to gastric cancer;IM-NoGC: Intestinal metaplasia not progressing to gastric cancer; IQR: Interquartile range; X±SD: Mean ± standard deviation.

Supplementary Table2: Baseline data of patients in validation cohort.

	IM-GC ***(n* = 8)**	**IM-NoGC** **(*n* = 23)**
Age ($\bar{X} \pm SD$)	62.5 ± 9.19	61 (55.5–69)
Gender (male/female)	6/2	17/6
Helicobacter pylori infection	4	3
Atrophy or IM (mile/moderate/severe)	4/4/0	14/6/3
Canceration time (median [IQR])	2.91 ± 2.40	-

GC:Gastric cancer; IM:Intestinal metaplasia; IM-GC: IM progressing to GC;IM-NoGC: Intestinal metaplasia not progressing to gastric cancer; IQR:Interquartile range; X±SD:Mean ± standard deviation.

Supplementary Table3: Logistic regression analysis of factors associated with high-risk IM-GC.

Factors	*P*-value	OR	95%CI
MG7-Ag	0.619	-	-
hTERT	0.095*	1.793	0.903, 3.560
TFF2	0.014*	0.298	0.113, 0.784
Degree of IM			
Mild	0.640	-	-
Moderate	0.465	-	-
Severe	0.823	-	-
Helicobacter pylori infection	0.108	-	-

CI:Confidence interval; GC:Gastric cancer;hTERT: Human telomerase reverse transcriptase; IM: Intestinal metaplasia; IM-GC: Intestinal metaplasia progressing to gastric cancer; OR:Odds ratio; TFF2: TRefoil factor family 2.

*P-values <0.1.

Supplementary Table4: ROC analysis of IM-GC.

Factors	*P*-value	AUC	95%CI
MG7-Ag	0.361	0.592	0.394, 0.789
hTERT	0.002*	0.815	0.665, 0.965
TFF2	<0.001*	0.933	0.853, 1.000
Helicobacter pylori infection	0.558	0.441	0.246, 0.637
Degree of IM	0.570	0.557	0.360, 0.754

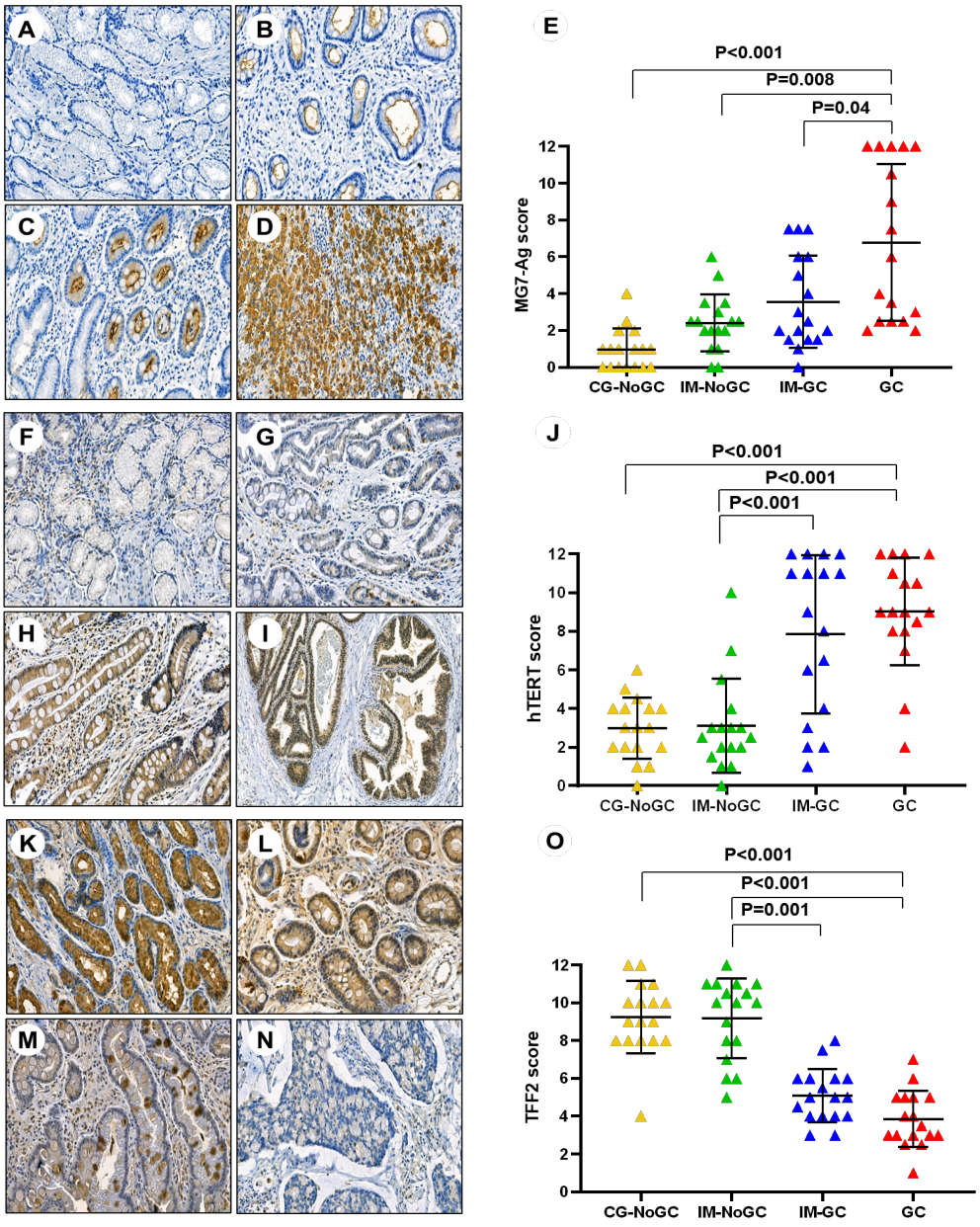
AUC: Area under ROC curve; CI: Confidence interval; hTERT: Human telomerase reverse transcriptase; IM: Intestinal metaplasia; IM-GC: Intestinal metaplasia progressing to gastric cancer; ROC: Receiver operating characteristic; TFF2: Trefoil factor family 2.

*P-values <0.05.

SupplementaryTable 5: Construction of multimolecular prediction model of gastric cancer in IM patients.

Model	Factors	β-value	*P*-value	OR	95%CI
Model 1	hTERT	0.576	0.106	1.780	0.885, 3.577
	MG7-Ag	0.202	0.623	1.224	0.547, 2.739
	TFF2	−1.212	0.013	0.297	0.114, 0.778
	Constants	5.403	0.048	222.166	
Model 2	hTERT	0.584	0.095	1.793	0.903, 3.560
	TFF2	−1.212	0.014	0.298	0.113, 0.784
	Constants	5.915	0.029	370.629	

CI: Confidence interval; hTERT: Human telomerase reverse transcriptase;IM: Intestinal metaplasia; OR: Odds ratio; TFF2: Trefoil factor family 2.



Supplementary Figure 1: Expression and comparison of MG7-Ag, hTERT, and TFF2 among different groups in retrospective case–control study. (A–D) showed the expression levels of MG7-Ag in the CG-NoGC, IM-NoGC, IM-GC, and GC group according to priority (400×). (F–I)showed the expression levels of hTERT in the CG-NoGC, IM-NoGC, IM-GC, and GC group according to priority (400×). (K–N)showed the expression levels of TFF2 in the CG-NoGC, IM-NoGC, IM-GC, and

GC group according to priority (400×). (E,J,O)The comparison of MG7-Ag, hTERT, and TFF2 expression between different groups.CG-NoGC: Chronic gastritis not progressing to gastric cancer; GC: Gastric cancer; hTERT: Human telomerase reverse transcriptase; IM-GC: Intestinal metaplasia progressing to gastric cancer; IM-NoGC: IM not progressing to GC; TFF2: Trefoil factor family 2.