

Prognosis and Treatment Strategy of Early Gastric Cancer with Signet Ring Cell Histology

Hsu JT¹, Le PH², Kuo CJ², Chen TH², Lin CJ², and Yeh TS¹

¹Department of Surgery Chang Gung Memorial Hospital at Linkou, Chang Gung University College of Medicine, Taoyuan, Taiwan

²Department of Gastroenterology, Chang Gung Memorial Hospital at Linkou, Chang Gung University College of Medicine, Taoyuan, Taiwan

Received: 10 Jun 2019

Accepted: 06 July 2019

Published: 15 July 2019

*Corresponding to:

Jun-Te Hsu, Department of General Surgery, Chang Gung Memorial Hospital No.5, Fushing Street, Kweishan District, Taoyuan City, Taiwan 333, Fax: 886-3-3285818; Tel: 886-3-3281200, Ext: 3219, E-mail: hsu jt2813@adm.cgmh.org.tw

1. Key Words: Early gastric cancer; Signet ring cell; Prognosis

2. Commentary

The prognosis of early gastric cancer (GC) with signet ring cell (SRC) histology comparing with other subtypes remains a matter of debate. Kim et al. indicated that early GC with SRC differs clinical course and prognosis from non-SRC.¹ They found that mucosal and submucosal GC with poor differentiation had 6.3% and 30% of lymph node metastasis, respectively; the values were higher as compared with other histological types [1]. However, our previous studies showed that early GC with differentiated and poorly differentiated histology had similar rates of nodal metastasis (13.5% vs. 14.2%) [2]. In addition, Kim et al. [3] reported that mucosal and submucosal SRC GC had higher and lower rates of nodal metastasis than well or moderately differentiated histology, respectively [1]. Interestingly, our results revealed that lymph node involvement was identified in 4.1% of patients with mucosal tumors and 24.3% of submucosal tumors irrespective of histological subtypes [2]. Our research also found that tumor differentiation in early GC was not associated with lymph node metastasis in univariate and multivariate analyses; however, tumor size > 2 cm, presence of lymphatic invasion and tumor with submucosal invasion were independent predictors for lymph node metastasis [2].

In line with Kim's observation [1], our results showed that early GC patients with SRC were younger and female predominance than other histologic subtypes [3]. Similar percentages of lymph node metastasis were noted between Kim's findings and ours (9.0% vs. 10.7%) [1,3]. Interestingly, Kim et al. [4] revealed that although early GC with SRC had different tumor behavior, prognoses among different histologic subtypes were similar [1]. Gronnier et al. [4] also reported that nodal involvement rates were comparable between the early SRC and non-SRC groups, and there was no difference in the 5-year disease-specific survival in multivariate analysis [4]. However, our previous data demonstrated that early GC with SRC had higher 5-year survival rates than non-SRC (96.1% vs. 89.6%, $P = 0.01$) [3]. Better survival identified in the SRC group might be related to the younger age (56 years vs. 64 years) and less percentages of proximal third lesions (4.7% vs. 8.4%) compared with the non-SRC group [3].

Studies have suggested that endoscopic resection might be feasible in highly selected early SRC GC patients with intramucosal invasion, tumor size <2 cm, and no lymph vascular invasion [5]. Kim et al. [3] concluded that SRC patients with unfavorable factors for lymph node metastasis should not be considered for endoscopic resection [1]. However, our previous studies found that 8.6% of poorly differentiated GC patients with all favorable factors (no ulcer, mucosal invasion, tumor size \leq 2 cm, and no lymph vascular invasion) had lymph node metastasis [2]. In this regard, we do not recommend that early GC patients with poorly differentiated histology including SRC undergo endoscopic resection unless those with advanced age or severe comorbidities who are not fit for surgical resection.

3. Acknowledgements

This work was partly supported by the Chang Gung Medical Research Program, Taiwan (CMRPG3I01011).

References

1. Kim BS, Oh ST, Yook JH, Kim BS. Surgery. Signet ring cell type and other histologic types: differing clinical course and prognosis in T1 gastric cancer. *Surgery*. 2014;155:1030-1035.
2. Sung CM, Hsu CM, Hsu JT, Yeh TS, Lin CJ, Chen TC, et al. Predictive factors for lymph node metastasis in early gastric cancer. *World J Gastroenterol*. 2010;16:5252-5256.
3. Chiu CT, Kuo CJ, Yeh TS, Hsu JT, Liu KH, Yeh CN, et al. Signet ring cell gastric cancer. *Dig Dis Sci*. 2011;56:1749-1756.
4. Gronnier C, Messenger M, Robb WB, Thiebot T, Louis D, Luc G, et al. Is the negative prognostic impact of signet ring cell histology maintained in early gastric adenocarcinoma? *Surgery*. 2013;154:1093-1099.
5. Wang Z, Zhang X, Hu J, Zeng W, Liang J, Zhou H, et al. Predictive factors for lymph node metastasis in early gastric cancer with signet ring cell histology and their impact on the surgical strategy: analysis of single institutional experience. *J Surg Res*. 2014;191:130-3.