

NEW CONTRIBUTIONS OF THE DOCTORAL DISSERTATION

Dissertation title: *“The study on mismatch repair protein expression in gastric cancer patients”*.

Major: **Biomedical Science**

Code: **9 72 01 01**

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The name of postgraduate training institution: **University of Medicine and Pharmacy, Hue University**

We conducted a survey of 229 gastric cancer patients newly diagnosed and reached the following conclusions:

1. This is the first research conducted in the Central Highlands examining MMR protein expression in gastric cancer patients. Additionally, this is the first internationally published study analyzing the dMMR rate and its relationship with microscopic histological features in gastric cancer patients in Vietnam.

- The dMMR rate was 11.8% of the 229 tissue samples analyzed (62.9% of surgical tissue).
- The most common dMMR pattern was the simultaneous loss of MLH1 and PMS2 (48.1%). The single loss of PMS2 was 37%.

- Factors predicting an elevated likelihood of dMMR status include

- + Stage 0, I and II with ORs of 4.8 (95% CI: 1.3-17.3, p=0.018) and 6.3 (95% CI: 1.9-21.0; p= 0.003), respectively.

- + No distant metastasis with OR=4.4 (95% CI: 1.5-13.0, p=0.009).

- + Tubular (well and moderately differentiated), papillary adenocarcinoma with OR=5.3 (95% CI: 1.2-23.3, p=0.029).

- + Intestinal subtype with OR= 5,7 (KTC95%: 1,7-19,5, p=0,006).

- + Low-grade with OR=4,5 (KTC95%: 1,6-12,3, p=0,004).

- In term of prognosis: In the resectable stage, dMMR was a favorable prognostic factor for gastric cancer patients, and was an independent prognostic factor for progression-free survival with HR= 0.09 (95% CI: (0.02-0.45), p=0.003).

2. Research contribution to clinical practice: As an independent prognostic factor for disease-free survival and a predicting parameter for poor response to adjuvant chemotherapy, MMR status should be analyzed before multidisciplinary consultation to stratify patients and choose appropriate treatment strategies.

3. The study enhances the understanding of MMR protein expression in gastric patients, contributing valuable data to Vietnamese and global medical knowledge.

- dMMR rate.

- Clinical and laboratory features are predictive of the likelihood of dMMR appearance.

- The independent prognostic role of MMR status in disease-free survival in resectable gastric cancer patients.

- Implied role of adjuvant chemotherapy in resectable gastric cancer patients.

- Directing additional studies toward the prognostic role and prediction of response to systemic therapies, such as immunotherapy and chemotherapy, in patients with this malignancy.

Huế, August 11th, 2025

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