Gastric cancer is difficult to diagnose at an early stage. Signs and symptoms of the disease often only occur when advanced or metastatic disease is present. A very small number of gastric cancers are hereditary. The mutation to the E-cadherin gene has high penetrance and confers a lifetime risk of gastric cancer of 80% for carriers. Because of the high penetrance of the mutation and the difficulty of diagnosing gastric cancer at an early stage, carriers of the mutation may be candidates for prophylactic gastrectomy. Although limited data are available about the complications and outcomes associated with prophylactic gastrectomy, nurses should be knowledgeable about prophylactic surgery for hereditary cancers and prepared to answer patients’ questions about their prevention.
rate associated with the curative surgery is 1%–2% (Caldas et al., 1999). Data about postoperative complications and quality-of-life outcomes do not exist in regard to prophylactic gastrectomy.

**Case Studies Published by Huntsman et al.**

**Purpose:** The purpose of the article by Huntsman et al. (2001) was to describe genetic screening, surgical management, and pathologic findings in young people with truncating mutations of CDH1. The young people were from two unrelated families with hereditary diffuse gastric cancer. A secondary aim was to present evidence to support genetic counseling of and consideration of prophylactic gastrectomy by young, asymptomatic carriers of germline truncating CDH1 mutations who are members of families with highly penetrant disease. To accomplish their aims, the authors presented two case studies as vehicles to depict the disease. The case studies describe signs and symptoms of gastric cancer, diagnostic protocols, family histories, treatment outcomes, and prognoses following elective gastrectomies.

**Methods:** The authors obtained informed consent in writing from one family and orally from the second family. Mutation analysis was performed on DNA extracted from peripheral blood samples from some subjects and by phenol-chloroform extraction for other subjects. In family 1, DNA analysis revealed a single-strand polymorphism band shift in exon 12 of the CDH1 gene. Members of both families received genetic counseling and DNA testing.

**Results:** In family 1, one carrier elected to have a prophylactic gastrectomy. Although removed stomach tissue was normal on gross inspection, the specimen contained superficial infiltrates of malignant signet-ring cells. The tissue was free of lymphadenopathy. Three carriers from family 2 consented to prophylactic surgery. All specimens contained foci of early diffuse gastric cancer and no lymph node involvement.

**Limitations of the article:** The authors presumed that readers know a considerable amount about diffuse gastric cancer and genetic mutation analysis, including the chromosome on which CDH1 is located. Nurses with limited knowledge will find it necessary to do some background reading to find meaning and relevance in the article.

The authors provided several excellent references for further research of disease epidemiology and risk management. The first reference is a historical study of the Bonaparte family (Sokoloff, 1938). Although seemingly out of place, this reference may be an interesting read for students of the history of genetic predisposition to cancer.

Another limitation relates to confidentiality. The newspaper article about N.B. identified the proband from family 1 by name. By knowing the name of the proband, a reader can determine the identities of other members of family 1 and, from the pedigree included in the article by Huntsman et al. (2001), learn their mutation status. Huntsman et al. did not describe the consent process for inclusion of the pedigree in the literature and how, or if, they modified information to protect confidentiality. Botkin, McMahon, Smith, and Wylie (1998) reported that including figures depicting family pedigrees without obtaining informed consent from family members is common practice. Modifying the data to conceal identity may be ethically problematic. In addition, modifying pedigrees to protect identity introduces another set of ethical issues related to the accuracy of research reports.

**Key points:** Prophylactic surgery is an important element in the management of susceptibility to cancer. Gastroctomy may extend the lives of people who are at risk for hereditary diffuse gastric cancer. However, morbidity and mortality data for this procedure are lacking. In addition, these individuals may be exposed to the risk of other cancers, such as lobular breast carcinoma. Therefore, Huntsman et al. (2001) recommended breast cancer screening for female carriers of mutations in CDH1 families.

**Relevance:** Whenever nurses offer risk-management strategies to patients, the nurses must know the limitations and consequences of the strategies as well as unknown variables. Research about prophylactic surgery for inherited cancers or cancer syndromes is highly relevant to oncology nurses. Although informative and current, the article by Huntsman et al. (2001) is not the best source of information about this surgical option and concurrent surveillance guidelines. I recommend the article by Caldas et al. (1999) for nurses who are interested in familial gastric cancer and treatment options. The article presents a comprehensive overview of familial gastric cancer and guidelines developed by the International Gastric Cancer Linkage Consortium for lifelong risk assessment.

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**References**


