

CANCER ANTIGEN (CA) 72.4

INTRODUCTION

About 85% of stomach cancers are Adenocarcinomas which may be diffuse type or intestinal type. Remaining 15% are Lymphomas, Gastrointestinal stromal tumors (GIST) and Leiomyosarcomas. Usually 30% of Gastric cancers originate in distal stomach; 37% in proximal one third of stomach; 13% involve the entire stomach.

Nitrate converting bacteria as a factor in causation of Gastric carcinoma

Exogenous sources of nitrate converting bacteria
• Contaminated / Partially decayed food
• Helicobacter pylori infection
Endogenous sources of nitrate converting bacteria
• Decreased gastric acidity
• Prior gastric surgery (15-20 years latency period)
• Atrophic gastritis
• Pernicious anemia
• Prolonged exposure to Histamine H2-receptor antagonists

NORMAL RANGE

<6U/mL

CLINICAL USE

- An aid in the management of Gastric cancer patients
- Monitor the course of disease and predict recurrence in patients with Gastric carcinoma
- Useful in detecting residual tumor

DISEASE	PERCENTAGE POSITIVITY OF CA 72.4
Gastro-intestinal carcinoma	40
Lung cancer	36
Ovarian cancer	24
Benign gastro-intestinal diseases	6.7
Healthy individuals	3.5

INTERPRETATION

Increased Levels

- Gastric carcinoma
- Ovarian carcinoma
- Benign diseases – Pancreatitis, Cirrhosis, Pulmonary disease, Rheumatic conditions, Ovarian cysts, Benign breast disease, Benign gastro-intestinal disorders

HIGH RISK FACTORS FOR GASTRIC CANCER

- Helicobacter pylori infection
- Long term ingestion of nitrates in high levels as in dried, smoked and salted foods
- Gastric ulcers
- Adenomatous polyps
- Menetrier's disease
- Individuals with blood group A
- Germ line mutation in E-Cadherin gene (CDH1)

EARLY DETECTION OF GASTRIC CANCER

- Detection of Germ line mutation in E-Cadherin gene (CDH1) in young asymptomatic carriers has been linked to a high incidence of occult diffuse type gastric cancer
- Detection of KRAS mutations is indicative of early event in intestinal type Gastric cancer
- Cyclin E overexpression correlates with progression from dysplasia

LABORATORY DIAGNOSIS

- Double contrast radiographic examination
- Gastroscopic biopsy and brush cytology
- Serum CA72.4

LIMITATIONS

- Sensitivity of monitoring Gastric carcinoma improves by combining CA 72.4 with CEA and CA 19.9 assays.
- False negative / positive results are observed in patients receiving mouse monoclonal antibodies for diagnosis or therapy
- This assay, regardless of level, should not be interpreted as absolute evidence for the presence or absence of malignant disease.

- The assay value should be used in conjunction with findings from clinical evaluation and other radiographic diagnostic procedures.
- Patients receiving Biotin therapy in high doses should not be tested for at least 8 hours after the last dose.