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Titolo

Possible Correlation Between Intestinal Meteorism During Single Scan Ultrasonography in Urgency, Body Mass Index (BMI) and Abdominal Pain

Identificativo

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INTRODUCTION

Patients admitted to Emergency Department who have abdominal pain represent an important percentage of total access. The possibility that abdominal pain derives only from disorders of intestinal canalization with enterocolic meteorism is a hypothesis with its physiopathological foundations. In a first level Emergency Department, the multidisciplinary ultrasound device is today an instrumental diagnostic device, indispensable above all in decision-making processes, mostly related to major polytraumatology, abdominal pain and chest pain. The population of socially more advanced Countries is represented to a considerable extent by people with a BMI that is compatible with overweight or obesity; patients with abdominal pain with BMI above 35 sometimes also present with intestinal canalization disorders in the Emergency Departments. The aim of this clinical study is to look for a possible statistically significant correlation between the presence of enterocolic meteorism in a single transverse epi-mesogastric ultrasound scan, the BMI and the presence of abdominal pain.

MATERIAL AND METHODS

The study was conducted in the period from November 2024 to March 2025, in the Emergency Department of Corigliano-Rossano Hospital, and Emergency Department of Conegliano Hospital, involving 55 patients with diagnosis of abdominal pain acceptance and with any other type of pathology for control purposes, regardless of gender or race, with age above 13 years and less than 75 years, submitting them to transverse epi-mesogastric ultrasonography during critical ultrasound diagnostic phase (abdominal-US for patients with abdominal pain, thoracic-cardiac-US for patients with chest pain, etc.). Patients did not have clinical/laboratory/instrumental signs of: cholangitis, cholecystitis, pancreatitis, appendicitis, diverticulitis, ulcerative rectocolitis or Crohn undergoing exacerbation. The patients were divided into two groups: the study group with abdominal pain, 30 patients, and the control group, 25 patients, with any other pathology, but of non-traumatic etiology; the two groups of patients were subjected to anamnestic, laboratory and instrumental investigation.

- Enterocolic meteorism by means single-scan transverse epi-mesogastric ultrasonography
- US-diagnosed gallstones
- Abdominal quadrant (s) of pain (in the group of patients with diagnosis of abdominal pain)
- Alimentation in the last 48 hours
- Alvo (regular/constipated/diarrheal)
- BMI (number of patients with BMI > 35 = 17 – study group, and 15 patients in the control group)

The collected data were subjected to statistical investigation to search any significant correlation, in both groups of patients, between the US evidence of enterocolic meteorism and abdominal pain and/or BMI.

RESULTS

Among the 20 patients of the case study was found a strong correlation (25/30 = 83%) patients) between abdominal pain and US diagnosis of meteorism, instead of the control group (7/25 = 28%) where there was no notice of correlation. The same was noticed about US meteorism and BMI > 35: there was a strong correlation in the case study group (15/17 = 88%) instead of the control group (3/15 = 20%).

DISCUSSION

We found a strong evidence between the US meteorism and BMI > 35, with abdominal pain. Moreover, there was no significant difference between the two groups about alvo, but the alimentation in the last 48 hours of the study group suggests that an over taking of slow digestion food (fat, fried, milkderivates and so on) can be correlated to meteorism and abdominal pain.

CONCLUSIONS

This observational study, even if small in number, can give personalized decisional pathways in the outcome phase to patients who refer to the ED for abdominal pain: prescription of food supplements, dietary adviceand, where possible, also advice on lifestyle changes, all to reduce the possibility of abdominal pain relapses. Other studies with a bigger number of patients is necessary to confirm the results of our study

Affiliazioni

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