Clinical epidemiological studies in patients with unexplained chest and/or epigastric pain

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ABSTRACT

This PhD dissertation is performed at the Department of Clinical Epidemiology, Aarhus University Hospital, Center of Visceral Biomechanics and Pain, Aalborg Hospital, Department of Surgical Gastroenterology L, Aarhus University Hospital, Department of Medicine V, Aarhus University Hospital, and includes three historical cohort studies based on data from the Aarhus University Hospital Endoscopy Registry. We examined the 10-year risk of death, ischemic heart disease (IHD), gastrointestinal cancer, and upper gastrointestinal disease in 386 Danish patients with chest/epigastric pain, normal upper endoscopy, and no prior discharge diagnosis of IHD (defined as patients with "unexplained chest/epigastric pain", UCEP), and compared with 3,793 population controls matched by age, gender, and residence. Outcome data were obtained from population-based health registries. Cox regression analysis was used to estimate the relative risks (RR) of disease or the mortality rate ratio (MRR) adjusted for potential confounders.

In study 1, the all-cause 10-year MRR among UCEP patients was 1.1 (95% CI, 0.9-1.5) compared with population controls, with the highest risk within the first year after upper endoscopy. The cause-specific MRRs were 1.1 (95% CI, 0.5-2.2) for IHD, 1.5 (95% CI, 0.3-8,2), for alcohol dependence, 1.7 (95% CI, 0.6-4.4) for lung cancer, and 2.7 (95% CI, 1.4-5.2) for pneumonia. The 10-year RR of IHD among UCEP patients was 1.6 (95% CI, 1.1-2.2). The RR was highest within the first year after upper endoscopy, but remained increased more than five years after.

In study 2, the RR of gastrointestinal cancer (stomach, liver, colorectal, and/or pancreatic cancer) among UCEP patients was increased only within the first year after upper endoscopy (8.4 (95% CI, 2.6-27.5)).

In study 3, the RR within the first year after upper endoscopy among UCEP patients were 2.0 (95% CI, 0.2-18.4) for peptic ulcer, 8.2 (95% CI, 1.2-59.2) for oesophagitis, 9.2 (95% CI, 2.0-41.8) for pancreatitis, and 14.1 (95% CI, 5.4-37.2) for gallstone. Hereafter only the RR for pancreatitis and gallstone remained high.

In conclusion, UCEP patients do not have substantially increased 10-year all-cause mortality. However, increased risk of death from pneumonia, lung cancer, or alcohol dependence cannot be ruled out. The increased short-term risk of death, IHD, gastrointestinal cancer, peptic ulcer, esophagitis, pancreatitis, or gallstone may indicate undiagnosed underlying diseases at the time of the procedure. Thus, careful evaluation early in the diagnostic process should be brought into focus. However, the increased long-term risk of IHD, pancreatitis and gallstone, could reflect a genuinely increased risk