ABSTRACT

Background: Based on reported familial patterns, inheritance of a predisposition of developing Barrett oesophagus (BO) and oesophageal adenocarcinoma (OAC) likely follows an autosomal dominant model of most inherited cancer syndromes.

Aims: We analyzed the phenotypic features of 70 familial BO/OAC families accrued for the purpose of initiating a linkage study to search for genes that contribute to susceptibility for BO/OAC.

Methods: Families with young or familial BO/OAC were recruited from participating institutions and self-referral from advertisement.

Results: A total of 70 families (173 affected and 784 unaffected individuals) were recruited into this study. Mean ages of diagnosis of BO and OAC among males were 50.6 and 57.4 years, respectively; among females, 52.1 and 63.5 years, respectively. The standardized incidence ratio (SIR) of cancers other than OAC or oesophagogastric junctional adenocarcinoma (OGJAC), among probands was 0.71. Seventy-one percent of the pedigrees have ‘typical’ structures with less than three affected individuals. Power calculations under realistic model assumptions suggest that if genetic heterogeneity is absent or limited, then DNA collection from members of these pedigrees could enable the identification of a novel candidate susceptibility gene for BO/OAC in a genome scan.

Conclusions: This is the largest series of families with BO/OAC yet reported, features of which are consistent with inherited germline predisposition. Further, the SIR of cancers other than OAC/OGJAC was 0.71 among 70 probands, indicating these individuals were not more likely to develop non-OAC cancers.

Keywords: Barrett oesophagus, inherited cancer syndrome