Supplementary Appendix

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Supplementary File 1: Study centres and procedures in the esophageal cancer screening programme in China

The pilot areas in the esophageal cancer (EC) screening program in four provinces of China (Jiangsu Province, Anhui Province, Shandong Province, and Henan Province) were selected based on the following considerations: 1) the targeted areas had a relatively high incidence and mortality of EC in the four selected provinces, according to the population-based cancer registry report; 2) the pilot areas had established population-based cancer registries and death surveillance systems; 3) the target populations were relatively stable; and 4) priority consideration would be given if the areas had experience in carrying out scientific studies or population programs related to the prevention and control of chronic noncommunicable diseases. In the current study, the data quality of the population-based cancer registry was also considered to guarantee the completeness of the follow-up data. Finally, a total of six centres were selected for this study, which increased from 2007 (n=2) to 2012 (n=6). The details are summarized in Table S1.

The incidence of EC among males and females and the corresponding rank of EC among all cancer types in each included study centre are provided in Table S2. The index that reflects the quality of the cancer registration is also summarized in Table S2, which includes the proportion of morphological verification (MV%), percentage of cases with death certificates only (DCO%), and mortality to incidence ratio (M/I).

Table S1: Profiles of included centres in the EC screening programme in China, 2007–2012

Year	No. of study centres	Names of included study centres
2007	2	Wenshang County; Xiping County
2008	2	Wenshang County; Xiping County
2009	3	Wenshang County; Xiping County; Jinhu County
2010	5	Wenshang County; Xiping County; Jinhu County; Hongze County; Tengzhou District
2011	5	Wenshang County; Xiping County; Jinhu County; Hongze County; Tengzhou District
2012	6	Wenshang County; Xiping County; Jinhu County; Hongze County; Tengzhou District; Shan County

EC=esophageal cancer.

Table S2: Incidence of EC and index of data quality of the population-based cancer registries in each included study centre

Study centres	Province	Men ($1/10^5$)		Women ($1/10^5$)		MV%	DOI%	M/I
		Rate	Rank	Rate	Rank			
Wenshang County	Shandong	62.54	1	36.25	1	75.71	4.53	0.63
Xiping County	Henan	25.63	3	13.20	3	70.90	2.91	0.64
Jinhu County	Jiangsu	42.07	2	20.14	2	78.20	0.98	0.65
Hongze County	Jiangsu	63.01	1	37.99	1	70.62	1.21	0.73
Tengzhou District	Shandong	39.14	2	17.56	3	77.47	1.49	0.59
Shan County	Shandong	21.86	4	14.73	3	61.66	0.39	0.50

EC=esophageal cancer. DOI=death certificates only. M/I=mortality to incidence ratio. MV=morphological verification.

Screening, follow-up and surveillance procedures in this programme are summarized in Figure S1 and are described as follows.

Baseline procedures: Briefly, at the baseline screening, an endoscopic examination with a local anaesthetic was performed for participants aged 40–69 years at high risk for EC, and biopsy was performed for suspicious lesions.
Management of participants with different diagnostic findings at baseline endoscopy: All participants who underwent endoscopic examination were informed of their biopsy diagnosis by the doctors. (1) Patients with positive findings who were diagnosed with severe dysplasia (SD), carcinoma in situ (CIS), intramucosal carcinoma, submucosal carcinoma, or invasive carcinoma were recommended to receive appropriate treatments according to the severity of the lesions. Specifically, for SD/CIS and early EC, endoscopic mucosal resection and/or endoscopic submucosal dissection treatments were used as local therapies. For advanced EC, therapies included esophagectomy, radical operation, radiotherapy, and other conventional treatments. (2) For patients diagnosed with mild dysplasia or moderate dysplasia at baseline endoscopy, triennial and annual endoscopy re-examinations were recommended, respectively. (3) Patients with negative endoscopy findings received no surveillance endoscopy in the screening programme.
Follow-up for all participants in the cohort: All individuals who participated in our programme were followed up annually via door-to-door visits by village doctors and by linking with the local cancer registry and death surveillance database to ascertain information on cancer diagnoses and deaths. In the current study, participants were continually followed up until the date of death or December 31, 2021, whichever occurred first.

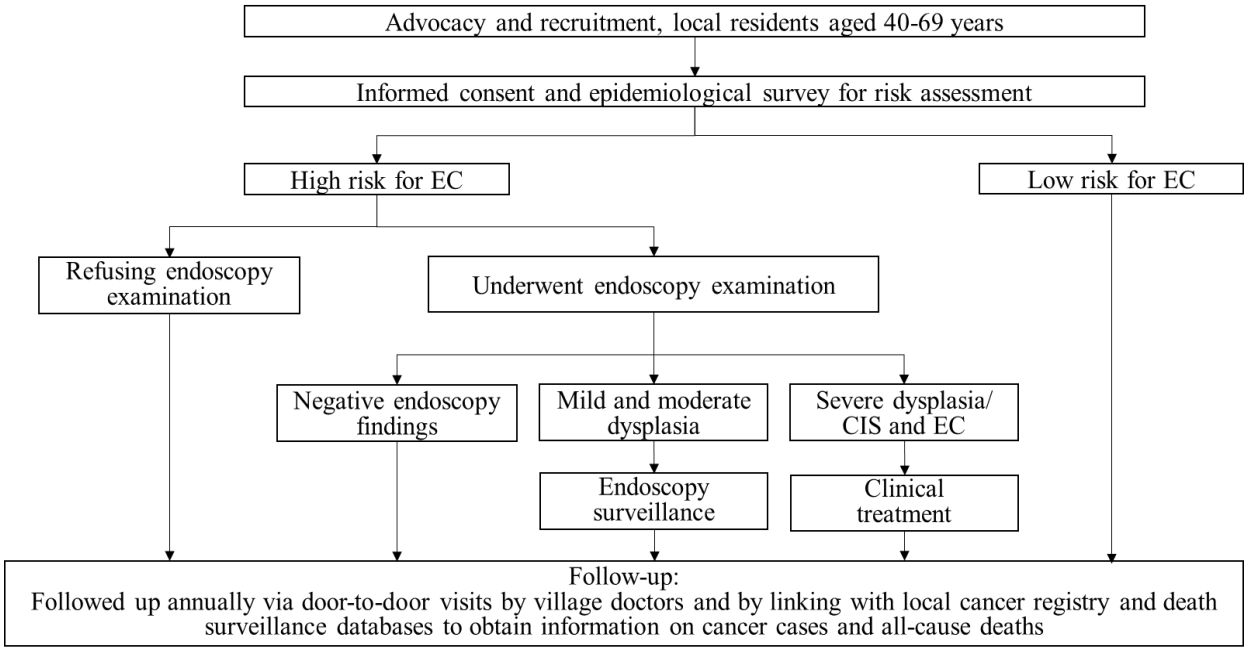

Figure S1: Flowchart of the enrolment of study participants, risk assessment, baseline endoscopy screening, management of follow-up and surveillance processes
CIS=carcinoma in situ. EC=esophageal cancer. UGI=upper gastrointestinal.

Supplementary File 2: Identification of individuals at high risk of esophageal cancer

The tool to identify the target population for endoscopic examinations was developed by the expert panel of the National Cancer Centre (NCC) of China/Chinese Academy of Medical Sciences (CICAMS). The candidate variables were selected from up-to-date reviews and meta-analyses focusing on the Chinese population, as well as evidence from population-attributable factors for EC and the Chinese expert consensus on early EC screening and endoscopic diagnosis. The assessment variables in this tool included tobacco smoking; alcohol consumption; salty food consumption; high-temperature food consumption; mouldy food consumption; family history of digestive system cancer; any symptoms of dysphagia, odynophagia, chest pain, back pain, or neck pain; and any disease history of esophageal reflux or peptic or duodenal ulcer. The risk score for each assessment variable was determined by an expert advisory panel based on the available evidence and expertise, resulting in the development of the initial assessment tool with eight epidemiological variables (Table S3). Participants who had risk scores of two or more were deemed high-risk individuals, i.e., the target population for endoscopic examinations.

Table S3: Definition of the target population for endoscopic examination in the EC programme

Item no.	Assessment items	Assessment score
1	Smoking at least 20 cigarettes per day for 10 years or more or smoking tobacco leaf for 10 years or more	1
2	Drinking at least 5 litres of beer per week for 10 years or more or drinking at least 1 litre of white spirits per week for 10 years or more	1
3	Eating salty food at least once per week	1
4	Eating high-temperature food at least once per week	1
5	Eating mouldy food at least once per week	1
6	Family history of digestive system cancer	2
7	Any current symptom of dysphagia, odynophagia, chest pain, back pain, or neck pain	2
8	Any disease history of esophageal reflux or peptic or duodenal ulcer	2
	Individual at high risk of EC*	≥2

* The items were included in the epidemiology survey, and the total score was summed for the identification of high-risk individuals (the target population for endoscopic examination).

EC=esophageal cancer.

Supplementary File 3: Quality control

The NCC of China is responsible for designing the protocols, implementing and managing the programme, and collecting and evaluating screening data. A series of quality control evaluations were conducted in the EC screening programme, and the main parts are listed as follows:

(1) Uniform study protocol: The study protocol, including the selection of screening areas, baseline screening procedures (informed consent, epidemiological survey, risk assessment, endoscopy examination procedures and the pathological diagnostic criteria), follow-up and surveillance procedures, data collection and management, etc., was implemented. The protocol was developed by the expert panel led by the NCC of China/CICAMS based on updated evidence on EC screening, clinical diagnosis and treatment.

(2) Personnel training: Each year, before the implementation of the programme, all personnel involved in the programme were uniformly trained by the experts from the NCC of China/CICAMS to understand this programme, use the study protocol and conduct quality control evaluations of the screening areas and project management. The trained personnel included the advocacy and recruitment staff, epidemiological survey investigators, endoscopists and pathologists who conducted endoscopy screening, and data and project managers in each study centre. According to the training results, the consistency rates for the endoscopic diagnoses and precancerous esophageal lesions made by the two endoscopists and pathologists were nearly 90% after training.

(3) Data collection and management: Data from epidemiological surveys were collected by investigators in the screening areas, and endoscopic and pathological data were collected by endoscopists and pathologists according to corresponding diagnostic results. The follow-up outcomes of cancer cases and all-cause deaths were collected by health visitors. During the screening process, an expert team that included endoscopists and pathologists from the NCC of China/CICAMS or provincial management institutions performed routine quality control evaluations and provided technical support and consultation onsite, and if disagreement in endoscopic or pathological diagnosis occurred, those sections were reviewed again to achieve a consensus.

Each involved institution was required to document the participants' screening-related information, including the epidemiology survey and risk assessment, endoscopy findings, pathological diagnosis results, and information about any subsequent procedures, when applicable. Furthermore, the six study centres in the current cohort continuously submitted CI5 series data to the China Cancer Registry Annual Report. The indices that reflect the quality of the cancer registration are also summarized in Table S2. All the data were transmitted to the coordinating centre at the NCC through a web-based management system for double checking and central reading. If errors were found, the datasets were returned and revised until all errors were fixed.

Supplementary File 4: Additional outcomes

Table S4: Basic characteristics of incident EC cases diagnosed among individuals with negative endoscopy findings, mild dysplasia, and moderate dysplasia

Characteristics	EC cases among individuals with negative endoscopy findings (n=202), n (%)	EC cases among individuals with mild dysplasia (n=39), n (%)	EC cases among individuals with moderate dysplasia (n=27), n (%)	All EC cases (n=268), n (%)
Sex				
Male	139 (68·81)	23 (58·97)	12 (44·44)	174 (64·93)
Female	63 (31·19)	16 (41·03)	15 (55·56)	94 (35·07)
Age at diagnosis, yr, mean (SD)	65·89 (6·51)	65·97 (6·90)	65·24 (6·57)	65·84 (6·55)
Histological type				
Squamous cell carcinoma	175 (86·63)	35 (89·74)	25 (92·60)	235 (87·69)
Adenocarcinoma	11 (5·45)	0 (0·00)	1 (3·70)	12 (4·48)
Adeno-squamous carcinoma	4 (1·98)	0 (0·00)	0 (0·00)	4 (1·49)
Unknown	12 (5·94)	4 (10·26)	1 (3·70)	17 (6·34)
Family history of EC				
No	169 (83·66)	30 (76·92)	22 (81·48)	221 (82·46)
Yes	33 (16·34)	9 (23·08)	5 (18·52)	47 (17·54)
Cigarette smoking				
No	103 (50·99)	26 (66·67)	19 (70·37)	148 (55·22)
Yes	99 (49·01)	13 (33·33)	8 (29·63)	120 (44·78)
Alcohol consumption				
No	127 (62·87)	27 (69·23)	20 (74·07)	174 (64·93)
Yes	75 (37·13)	12 (30·77)	7 (25·93)	94 (35·07)

EC=esophageal cancer. SD=standard deviation. yr=year.

Table S5: Cumulative EC incidence within 10 years by baseline endoscopy findings

Follow-up years	Group with negative endoscopy findings		Mild dysplasia group		Moderate dysplasia group	
	No. of cumulative EC cases	Cumulative EC incidence, %	No. of cumulative EC cases	Cumulative EC incidence, %	No. of cumulative EC cases	Cumulative EC incidence, %
1	2	0·005	1	0·064	1	0·348
2	12	0·029	6	0·385	4	1·395
3	22	0·054	11	0·707	8	2·799
4	38	0·093	13	0·836	13	4·559
5	62	0·152	17	1·096	16	5·620
6	84	0·207	20	1·292	21	7·397
7	109	0·269	23	1·490	22	7·754
8	134	0·332	25	1·623	23	8·115
9	158	0·392	33	2·159	24	8·481
10	178	0·450	36	2·391	25	8·900

EC=esophageal cancer.

Table S6: Cumulative EC mortality within 10 years by baseline endoscopy findings

Follow-up years	Group with negative endoscopy findings		Mild dysplasia group		Moderate dysplasia group	
	No. of cumulative EC deaths	Cumulative EC mortality, %	No. of cumulative EC deaths	Cumulative EC mortality, %	No. of cumulative EC deaths	Cumulative EC mortality, %
1	0	0	0	0	0	0
2	1	0·002	0	0	0	0
3	6	0·015	0	0	0	0
4	12	0·029	1	0·065	1	0·352
5	20	0·049	2	0·130	1	0·352
6	27	0·067	3	0·195	5	1·773
7	40	0·099	7	0·459	5	1·773
8	63	0·156	8	0·526	6	2·133
9	81	0·202	11	0·727	7	2·498
10	89	0·225	14	0·958	7	2·498

EC=esophageal cancer.

Table S7: EC incidence and HRs by endoscopy findings, stratified by sex and age

Characteristics	No. of participants	No. of EC cases	Crude HR (95% CI)	Adjusted HR (95% CI) *
Sex				
Male				
Negative endoscopy findings	17,007	139	Ref.	Ref.
Mild dysplasia	811	23	3·46 (2·22–5·37)	2·75 (1·77–4·29)
Moderate dysplasia	144	12	10·25 (5·68–18·48)	7·78 (4·30–14·09)
Female				
Negative endoscopy findings	23,970	63	Ref.	Ref.
Mild dysplasia	751	16	8·05 (4·65–13·94)	5·50 (3·17–9·56)
Moderate dysplasia	144	15	43·18 (24·58–75·83)	28·65 (16·23–50·56)
Age, yr				
40–49				
Negative endoscopy findings	15,552	13	Ref.	Ref.
Mild dysplasia	262	4	16·44 (5·32–50·83)	13·84 (4·44–43·14)
Moderate dysplasia	33	2	63·24 (14·17–282·3)	49·67 (10·84–227·66)
50–59				
Negative endoscopy findings	15,576	85	Ref.	Ref.
Mild dysplasia	657	14	3·78 (2·15–6·66)	3·41 (1·93–6·02)
Moderate dysplasia	121	11	17·14 (9·15–32·14)	15·79 (8·39–29·69)
60–69				
Negative endoscopy findings	9849	104	Ref.	Ref.
Mild dysplasia	643	21	3·15 (1·97–5·04)	3·05 (1·91–4·88)
Moderate dysplasia	134	14	10·55 (6·04–18·43)	10·39 (5·94–18·18)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
CI=confidence interval. EC=esophageal cancer. HR=hazard ratio. pyrs=person-years. yr=year. Ref=reference.

Table S8: EC mortality and HRs by endoscopy findings, stratified by sex and age

Characteristics	No. of participants	No. of EC deaths	Crude HR (95% CI)	Adjusted HR (95% CI) *
Sex				
Male				
Negative endoscopy findings	17,007	78	Ref.	Ref.
Mild dysplasia	811	11	2·97 (1·58–5·58)	2·28 (1·21–4·30)
Moderate dysplasia	144	5	7·50 (3·04–18·52)	5·21 (2·10–12·93)
Female				
Negative endoscopy findings	23,970	27	Ref.	Ref.
Mild dysplasia	751	4	4·60 (1·61–13·14)	2·93 (1·02–8·41)
Moderate dysplasia	144	3	18·70 (5·67–61·64)	11·01 (3·32–36·50)
Age, yr				
40–49				
Negative endoscopy findings	15,552	3	Ref.	Ref.
Mild dysplasia	262	2	37·46 (6·25–224·48)	30·99 (5·12–187·54)
Moderate dysplasia	33	1	144·40 (14·99–1391·38)	131·84 (13·28–1308·87)
50–59				
Negative endoscopy findings	15,576	39	Ref.	Ref.
Mild dysplasia	657	4	2·39 (0·86–6·69)	2·08 (0·74–5·84)
Moderate dysplasia	121	3	9·91 (3·06–32·07)	9·32 (2·87–30·25)
60–69				
Negative endoscopy findings	9849	63	Ref.	Ref.
Mild dysplasia	643	9	2·20 (1·10–4·43)	2·04 (1·01–4·11)
Moderate dysplasia	134	4	4·67 (1·70–12·83)	4·26 (1·55–11·73)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
CI=confidence interval. EC=esophageal cancer. HR=hazard ratio. pyrs=person-years. yr=year. Ref=reference.

Table S9: Sensitivity analysis of HRs for EC development when compared with normal findings at baseline screening

Endoscopy screening diagnosis at baseline	No. of participants	No. of EC cases	Crude HR (95% CI)	P	Adjusted HR (95% CI) *	P
Normal squamous epithelium	34,279	120	Ref.		Ref.	
Esophagitis/ BCH	6698	82	3·40 (2·57–4·51)	<.0001	2·65 (2·00–3·51)	<.0001
Mild dysplasia	1562	39	7·09 (4·94–10·18)	<.0001	4·76 (3·31–6·86)	<.0001
Moderate dysplasia	288	27	27·98 (18·43–42·48)	<.0001	17·89 (11·73–27·29)	<.0001

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
BCH=basal cell hyperplasia. CI=confidence interval. EC=esophageal cancer. HR=hazard ratio. Ref=reference.

Table S10: Sensitivity analysis of HRs of death due to EC when compared with normal findings at baseline screening

Endoscopy screening diagnosis at baseline	No. of participants	No. of EC deaths	Crude HR (95% CI)	P	Adjusted HR (95% CI) *	P
Normal squamous epithelium	34,279	61	Ref.		Ref.	
Esophagitis/ BCH	6698	44	3·57 (2·42–5·26)	<.0001	2·60 (1·76–3·84)	<.0001
Mild dysplasia	1562	15	5·36 (3·04–9·42)	<.0001	3·31 (1·87–5·84)	<.0001
Moderate dysplasia	288	8	15·62 (7·48–32·65)	<.0001	8·81 (4·20–18·49)	<.0001

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
BCH=basal cell hyperplasia. CI=confidence interval. EC=esophageal cancer. HR=hazard ratio. Ref=reference.

Table S11: Sensitivity analysis of hazard ratios of EC incidence when considering competing events

Characteristics	No. of participants	No. of EC cases	Crude HR (95% CI)	Adjusted HR (95% CI) *
All				
Negative endoscopy findings	40,977	202	Ref.	Ref.
Mild dysplasia	1562	39	5·05 (3·58–7·13)	3·52 (2·47–5·00)
Moderate dysplasia	288	27	19·94 (13·27–29·95)	13·18 (8·60–20·17)
Sex				
Male				
Negative endoscopy findings	17,007	139	Ref.	Ref.
Mild dysplasia	811	23	3·46 (2·22–5·38)	2·75 (1·75–4·33)
Moderate dysplasia	144	12	10·25 (5·68–18·48)	7·78 (4·23–14·32)
Female				
Negative endoscopy findings	23,970	63	Ref.	Ref.
Mild dysplasia	751	16	8·05 (4·64–13·98)	5·50 (3·18–9·53)
Moderate dysplasia	144	15	43·18 (24·34–76·60)	28·65 (15·95–51·44)
Age, yr				
40–49				
Negative endoscopy findings	15,552	13	Ref.	Ref.
Mild dysplasia	262	4	16·44 (5·16–52·39)	13·84 (4·32–44·38)
Moderate dysplasia	33	2	63·24 (15·22–262·69)	49·67 (11·67–211·46)
50–59				
Negative endoscopy findings	15,576	85	Ref.	Ref.
Mild dysplasia	657	14	3·78 (2·15–6·66)	3·41 (1·91–6·08)
Moderate dysplasia	121	11	17·14 (9·15–32·14)	15·79 (8·20–30·38)
60–69				
Negative endoscopy findings	9849	104	Ref.	Ref.
Mild dysplasia	643	21	3·15 (1·97–5·04)	3·05 (1·90–4·89)
Moderate dysplasia	134	14	10·55 (5·97–18·65)	10·39 (5·81–18·57)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
EC=esophageal cancer. HR=hazard ratio. Ref=reference. yr=year.

Table S12: Sensitivity analysis of hazard ratios of EC mortality when considering competing events

Characteristics	No. of participants	No. of EC deaths	Crude HR (95% CI)	Adjusted HR (95% CI) *
All				
Negative endoscopy findings	40,977	105	Ref.	Ref.
Mild dysplasia	1562	15	3·74 (2·17–6·43)	2·43 (1·40–4·22)
Moderate dysplasia	288	8	10·90 (5·30–22·43)	6·46 (3·09–13·51)
Sex				
Male				
Negative endoscopy findings	17,007	78	Ref.	Ref.
Mild dysplasia	811	11	2·97 (1·58–5·58)	2·28 (1·20–4·34)
Moderate dysplasia	144	5	7·47 (3·02–18·49)	5·21 (2·08–13·09)
Female				
Negative endoscopy findings	23,970	27	Ref.	Ref.
Mild dysplasia	751	4	4·61 (1·61–13·21)	2·93 (1·05–8·15)
Moderate dysplasia	144	3	18·81 (5·68–62·30)	11·01 (3·23–37·53)
Age, yr				
40–49				
Negative endoscopy findings	15,552	3	Ref.	Ref.
Mild dysplasia	262	2	37·54 (6·00–235·08)	30·99 (4·54–211·49)
Moderate dysplasia	33	1	144·09 (14·09–1473·19)	131·84 (13·74–1265·47)
50–59				
Negative endoscopy findings	15,576	39	Ref.	Ref.
Mild dysplasia	657	4	2·39 (0·85–6·69)	2·08 (0·75–5·81)
Moderate dysplasia	121	3	9·98 (3·07–32·46)	9·32 (2·81–30·86)
60–69				
Negative endoscopy findings	9849	63	Ref.	Ref.
Mild dysplasia	643	9	2·21 (1·10–4·44)	2·04 (1·01–4·11)
Moderate dysplasia	134	4	4·65 (1·69–12·78)	4·26 (1·55–11·71)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
EC=esophageal cancer. HR=hazard ratio. Ref=reference. yr=year.

Table S13: Sensitivity analysis of hazard ratios of esophageal cancer incidence and mortality when only participants in Wenshang County and Xiping County were included

Characteristics	No. of participants	No. of cases	Crude HR (95% CI)	Adjusted HR (95% CI) *
Incidence				
Negative endoscopy findings	22,441	115	Ref.	Ref.
Mild dysplasia	768	11	2·67 (1·44–4·96)	1·94 (1·05–3·62)
Moderate dysplasia	171	13	15·64 (8·81–27·75)	10·08 (5·64–18·00)
Mortality				
Negative endoscopy findings	22,441	59	Ref.	Ref.
Mild dysplasia	768	7	3·33 (1·52–7·30)	2·38 (1·08–5·23)
Moderate dysplasia	171	2	4·53 (1·11–18·55)	2·80 (0·68–11·53)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
EC=esophageal cancer. HR=hazard ratio. Ref=reference.

Table S14: Sensitivity analysis of hazard ratios of EC incidence and mortality when excluding participants who underwent subsequent endoscopic surveillance

Characteristics	No. of participants	No. of cases	Crude HR (95% CI)	Adjusted HR (95% CI) *
Incidence				
Negative endoscopy findings	40,977	202	Ref.	Ref.
Mild dysplasia	1203	29	4·90 (3·32–7·24)	3·42 (2·31–5·05)
Moderate dysplasia	159	9	11·83 (6·07–23·05)	7·38 (3·77–14·44)
Mortality				
Negative endoscopy findings	40,977	105	Ref.	Ref.
Mild dysplasia	1203	13	4·24 (2·39–7·55)	2·79 (1·57–4·98)
Moderate dysplasia	159	4	9·89 (3·64–26·83)	5·43 (2·00–14·80)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
EC=esophageal cancer. HR=hazard ratio. Ref=reference.

Table S15: Sensitivity analysis of hazard ratios of EC incidence and mortality when excluding participants of lost to follow-up during the study period

Characteristics	No. of participants	No. of cases	Crude HR (95% CI)	Adjusted HR (95% CI) *
Incidence				
Negative endoscopy findings	40,524	202	Ref.	Ref.
Mild dysplasia	1554	38	4·90 (3·46–6·93)	3·40 (2·40–4·81)
Moderate dysplasia	285	27	19·94 (13·34–29·79)	13·15 (8·77–19·73)
Mortality				
Negative endoscopy findings	40,524	105	Ref.	Ref.
Mild dysplasia	1554	15	3·72 (2·16–6·38)	2·42 (1·40–4·16)
Moderate dysplasia	285	8	10·89 (5·30–22·34)	6·45 (3·13–13·29)

*: adjusted for sex, age, cigarette smoking, alcohol consumption, and family history of esophageal cancer.
EC=esophageal cancer. HR=hazard ratio. Ref=reference.

Table S16: SIR of EC during a follow-up of 10·6 years after a baseline endoscopy screening with mild dysplasia or moderate dysplasia

Baseline diagnosis	No. of observed EC cases	No. of expected EC cases	SIR (95% CI)
Mild dysplasia	39	20	1·95 (1·69–2·24)
Moderate dysplasia	27	4	6·75 (6·25–7·28)

EC=esophageal cancer. SIR=standardized incidence ratio.

Table S17: SMR of EC during a follow-up of 10·6 years after a baseline endoscopy screening with mild dysplasia or moderate dysplasia

Baseline diagnosis	No. of observed EC deaths	No. of expected EC deaths	SMR (95% CI)
Mild dysplasia	15	14	1·07 (0·88–1·29)
Moderate dysplasia	8	3	2·67 (2·36–3·01)

EC=esophageal cancer. SMR=standardized mortality ratio.

Table S18: Sensitivity analysis of SIRs of EC during follow-up after a baseline endoscopy screening with normal squamous epithelium or a diagnosis of esophagitis/BCH

Time after an endoscopy with negative findings	Negative endoscopy findings		
	Normal squamous epithelium	Esophagitis/BCH	Total
0–5 years	0·26 (0·17–0·38)	1·14 (0·94–1·37)	0·44 (0·32–0·59)
5·1–10 years	0·60 (0·46–0·77)	1·27 (1·06–1·51)	0·74 (0·59–0·93)
Entire follow-up period	0·40 (0·28–0·54)	1·06 (0·87–1·29)	0·53 (0·40–0·70)

BCH=basal cell hyperplasia. CI=confidence interval. EC=esophageal cancer. SIRs=standardized incidence ratios.

Table S19: Sensitivity analysis of SMRs of EC during follow-up after a baseline endoscopy screening with normal squamous epithelium or a diagnosis of esophagitis/BCH

Time after an endoscopy with negative findings	Negative endoscopy findings		
	Normal squamous epithelium	Esophagitis/BCH	Total
0–5 years	0·14 (0·07–0·23)	0·63 (0·47–0·78)	0·24 (0·15–0·35)
5·1–10 years	0·51 (0·38–0·67)	1·30 (1·09–1·54)	0·69 (0·53–0·86)
Entire follow-up period	0·32 (0·22–0·45)	0·86 (0·69–1·07)	0·43 (0·31–0·58)

BCH=basal cell hyperplasia. CI=confidence interval. EC=esophageal cancer. SMRs=standardized mortality ratios.