Table 1: Results of quality assessment with the Newcastle-Ottawa scale for case-control studies

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| --- | --- | --- | --- |
| **Author** | **Selection** | **Comparability** | **Exposure** |
| Chen *et al*[24], 2008 | ★★ | ★ | ★★ |
| Shiono *et al*[25], 2008 | ★★ | ★ | ★★★ |
| Kozu *et al*[27], 2014  | ★ | ★ | ★★ |
| Kobayashi *et al*[30], 2014  | ★★ | ★ | ★ |
| Kanamori *et al*[31], 2017  | ★ | ★ | ★ |
| Ghaly *et al*[35], 2018  | ★★ | ★ | ★ |
| Onal *et al*[36], 2017  | ★ | ★ | ★★ |
| Erhunmwunsee *et al*[37], 2014  | ★★ | ★ | ★★ |

Table 2: Results of quality assessment with the New-Castle Ottawa scale for cohort studies

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| --- | --- | --- | --- |
| **Author** | **Selection** | **Comparability** | **Exposure** |
| Ichida *et al* [32], 2013 | ★★ | ★★ | ★★ |
| Hiyoshi *et al* [34], 2015 | ★★ | ★★ | ★★ |

Table 3: Results of quality assessment of the case-series study

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| --- | --- | --- | --- | --- | --- |
| **Author** | **Selection** | **Ascertainment** | **Causality** | **Reporting** | **Total score** |
| Kozu *et al*[26], 2011  | 0/1 | 2/2 | 2/4 | 1/1 | 5/8 |
| Takemura *et al* [29], 2012  | 1/1 | 1/2 | 2/4 | 1/1 | 5/8 |
| Ichikawa *et al*[28], 2011  | 0/1 | 2/2 | 2/4 | 1/1 | 5/8 |
| Huddy *et al* [33], 2015  | 0/1 | 1/2 | 2/4 | 1/1 | 4/8 |

Table 4: Baseline characteristics of included studies regarding oligometastatic disease in oesophageal cancer.

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| **METACHRONOUS** |
| **Author** | **Number of patients** | **Median age (years)** | **Gender** | **Histology primary tumour** | **Treatment primary tumour** |
| Chen et al [24]. (2008) | 5 | 57 | Male 2; Female 3 | SCC 5 | Surgery 4; Surgery + CTH 1 |
| Shiono et al. [25] (2008) | 49 | 65 | Male 46; Female 3 | SCC 48; AC 1 | Surgery 26; Surgery +CRT 7; Surgery+ CTH 3; Surgery+RTH 6; RTH 2 |
| Ichikawa et al. [28] (2011) | 23 | 66 | Male 19; Female 4 | SCC 21; AC 1; Sarcoma 1 | Surgery 7; Surgery+CTH 13; CRT 3 |
| Kozu et al. [26] (2011) | 5 | 68 | Male 5; Female 0 | SCC 5 | CRT |
| Takemura et al. [29] (2012) | 5 | 63 | Male 4; Female 1 | SCC 4; Basaloid cancer 1 | Surgery |
| Ichida et al. [32] (2013) | 92 | 64 | - | - | Surgery |
| Kobayashi et al. [30] (2014) | 23 | 66 | Male 21; Female 2 | SCC 22; Carcinosarcoma 1 | Surgery 9; Neoadjuvant CTH+surgery 4; Neoadjuvant CRT+surgery 4; CRT 5; ESD 1 |
| Hiyoshi et al. [34] (2015) | 9 | 64 | Male 7; Female 2 | - | Surgery |
| Huddy et al. [33] (2015) | 4 | 57.5 | Male 3; Female 1 | SCC 1; AC 3 | Surgery + CTH |
| Kozu et al. [27] (2015) | 15 | 64 | Male 13; Female 2 | SCC 15 | Surgery 10; Surgery+CRT 2; Neoadjuvant CTH+Surgery 3 |
| Kanamori et al. [31] (2017) | 33 | 67 | Male 30; Female 3 | SCC 32; Basaloid carcinoma 1 | Surgery 16; Neoadjuvant 6; Definitive CRT 14; ESD 3 |
| Ghaly et al. [35] (2018) | 56 | 62.5 | Male 46; Female 10 | SCC 11; AC 45 | Surgery 11; Neoadjuvant CRT+ Surgery 38 |
| **SYNCHRONOUS** |
| **Author** | **Number of patients** | **Median age (years)** | **Gender** | **Histology primary tumour** | **Treatment primary tumour** |
| Erhunmwunsee et al. [37] (2014) | 71 | 60 | Male 60; Female 11 | SCC 10; AC 61 | Surgery+CRT |
| Onal et al. [36] (2017) | 7 | 58 | Male 7; Female 0 | SCC 2; AC 5 | CRT 6; RTH 1 |

AC = adenocarcinoma; CRT = chemoradiotherapy; CTH = chemotherapy; OC = oesophageal cancer; ESD = endoscopic submucosal dissection; RTH = radiotherapy; SCC = squamous cell carcinoma

Table 5: Outcome characteristics of included studies regarding oligometastatic disease in oesophageal cancer.

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| **METACHRONOUS** |
| **Author** | **Median DFI (months)** | **Site of metastasis** | **Number of metastasis** | **Laterality** | **Treatment for metastasis** | **1-year survival (%)** | **3-year survival (%)** | **5-year survival (%)** | **Overall survival (months)** | **DFS (months)** | **Imaging on recurrence diagnosis** | **Imaging post-recurrence management** | **Re-recurrence** | **Unfavourable prognostic factor(s)** |
| **Number of patients** | **Sites** | **Treatment** |  |
| Chen et al. [24] (2008) | 21 | Pulmonary | Solitary 3; Multiple 2 | Unilateral 4 | Surgery | - | - | - | 24 | 13 | - | CT 5 | 3 | Brain; pulmonary; LN | Surgery + CTH | Extrapulmonary metastasis |
| Shiono et al. [25] (2008) | 14 | Pulmonary | Solitary 39; Multiple 10 | Unilateral 44 | Surgery | - | - | 29.6 | 27 | - | - | - | 16 | Lung; LN; neck; stomach; distant metastasis; unknown sites | - | DFI < 12 months |
| Ichikawa et al. [28] (2011) | 15.5 | Pulmonary | Solitary 16; Multiple 7 | - | Surgery | 73.9 | 43.5 | 43.5 | 28.7 | - | - | - | 14 | LN; pleura; bone; liver; other sites | CRT; CTH; RT | Extrapulmonary metastasis |
| Kozu et al. [26] (2011) | 19 | Pulmonary | Solitary 3; Multiple 2 | - | Surgery | - | - | - | 29 | - | CXR; CT | - | - | - | - | - |
| Takemura et al. [29] (2012) | - | Pulmonary | Solitary 5 | - | Surgery 4; Surgery+CTH 1 | - | - | - | 48 | - | CXR; CT; PET | - | - | - | - | Extrapulmonary metastases; higher number of pulmonary lesions; lower DFI; primary tumour pathological stage III/IV |
| Ichida et al. [32] (2013) | 8 | Pulmonary 27; Liver 26; Bone 21; other organs 29 | Solitary 17; Multiple 36 | - | - | - | - | - | 51 | - | - | - | - | - | - | Worse prognosis in hepatic and other solid organ metastases than pulmonary metastases |
| Kobayashi et al. [30] (2014) | 23.8 | Pulmonary | Solitary 26; Multiple 4 | - | Surgery | 82.6 | 46 | 34.1 | 29.4 | - | CT | - | 5 | Pulmonary; brain; LN | - | Extrapulmonary metastases; DFI < 12 months |
| Hiyoshi et al. [34] (2015) | - | Pulmonary 5; Liver 1; Parotid 1; Bone 1; Brain 1 | - | - | Surgery+CRT 1; Surgery+CTH 6; Surgery+RTH 1 | - | - | - | 18.4 | - | CT; FDG-PET CT; US; endoscopy | - | - | - | - | - |
| Huddy et al. [33] (2015) | 33.5 | Liver | Solitary 3; Multiple 1 | - | Surgery+CTH | - | - | - | 36.25 | - | CT; PET; US | CT | 2 | LN; liver | - | - |
| Kozu et al. [27] (2015) | 15 | Pulmonary | Solitary 15; Multiple 1 | - | Surgery | - | 44 | 0 | 32.3 | - | - | - | 7 | Abdominal LN; pulmonary hilar LN; liver | - | Larger diameter of pulmonary lesion (> 20 mm) |
| Kanamori et al. [31] (2017) | 15.5 | Pulmonary | Solitary 27; Multiple 6 | - | Surgery | 79.4 | 47.8 | 43 | 17.9 | - | CT | CXR; CT | 23 | Lung 10; Bone 2; Brain 2; Liver 1; Mediastinal LN 3; Abdominal LN 2; Chest wall 2; Pleural dissemination 3 | - | - |
| Ghaly et al. [35] (2018) | 19 | Pulmonary 5; Bone 10; Brain 3; Liver 2; Adrenal 1 | - | - | Surgery 31; Surgery+CRT 25 | 76.8 | - | 16 | 25.9 | - | CT; PET; endoscopy | - | - | - | - | Time to recurrence < 12 months |
| **SYNCHRONOUS** |
| **Author** | **Median DFI (months)** | **Site of metastasis** | **Number of metastasis** | **Laterality** | **Treatment for metastasis** | **1-year survival (%)** | **3-year survival (%)** | **5-year survival (%)** | **Overall survival (months)** | **DFS (months)** | **Imaging on recurrence diagnosis** | **Imaging post-recurrence management** | **Re-recurrence** | **Unfavourable prognostic factor(s)**  |
| **Number of patients** | **Sites** | **Treatment** |  |
| Erhunmwunsee et al. [37] (2014) | - | Suspicous lesion | - | - | - | - | - | 24.8 | - | - | CT; PET | - | - | - | - | Liver lesion; Post-CRT T4 status; Post-CRT nodal status; pathologically confirmed metastatic disaese at or before resection |
| Onal et al. [36] (2017) | - | Brain | - | - | WBRTH 3; Surgery+WBRTH 4 followed by systemic treatment | - | - | - | 18.9 | - | CT; PET; MRI | - | 7 | Pulmonary, intrabdominal, liver and bone | - | - |

CRT = chemoradiotherapy; CT = computerised tomography; CTH = chemotherapy; CXR = chest x-ray; DFI = disease-free interval; DFS = disease-free survival; LN = lymph nodes; RTH = radiotherapy; US = ultrasound; WBRTH = whole brain radiotherapy; FDG-PET CT = [18F]-fluorodeoxyglucose–positron emission tomography