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Original Research

Definitions and treatment of oligometastatic oesophagogastric cancer according to multidisciplinary tumour boards in Europe

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Abstract ***Background:*** Consensus about the definition and treatment of oligometastatic oesophagogastric cancer is lacking.
Objective: To assess the definition and treatment of oligometastatic oesophagogastric cancer across multidisciplinary tumour boards (MDTs) in Europe.
Material and methods: European expert centers (n = 49) were requested to discuss 15 real-life cases in their MDT with at least a medical, surgical, and radiation oncologist present. The cases varied in terms of location and number of metastases, histology, timing of detection (i.e. synchronous versus metachronous), primary tumour treatment status, and response to systemic therapy. The primary outcome was the agreement in the definition of oligometastatic disease at diagnosis and after systemic therapy. The secondary outcome was the agreement in treatment strategies. Treatment strategies for oligometastatic disease were categorised into upfront local treatment (i.e. metastasectomy or stereotactic radiotherapy), systemic therapy followed by restaging to consider local treatment or systemic therapy alone. The agreement across MDTs was scored to be either absent/poor (<50%), fair (50%–75%), or consensus (≥75%).
Results: A total of 47 MDTs across 16 countries fully discussed the cases (96%). Oligometastatic disease was considered in patients with 1–2 metastases in either the liver, lung, retroperitoneal lymph nodes, adrenal gland, soft tissue or bone (consensus). At follow-up, oligometastatic disease was considered after a median of 18 weeks of systemic therapy when no progression or progression in size only of the oligometastatic lesion(s) was seen (consensus). If at restaging after a median of 18 weeks of systemic therapy the number of lesions progressed, this was not considered as oligometastatic disease (fair agreement). There was no consensus on treatment strategies for oligometastatic disease.
Conclusion: A broad consensus on definitions of oligometastatic oesophagogastric cancer was found among MDTs of oesophagogastric cancer expert centres in Europe. However, high practice variability in treatment strategies exists.

1. Introduction

Oligometastatic disease is defined as an intermediate state between loco-regional and systemic disease and reflects a potentially distinct and favourable tumour biology [1]. Consequently, local treatment for oligometastatic disease (e.g. metastasectomy or stereotactic body radiation therapy (SBRT)) could improve overall survival (OS) [1]. A recent randomised controlled trial (RCT) has shown improved OS after SBRT for oligometastatic prostate-, lung- or colorectal cancer as compared with systemic therapy alone or observation [2]. In addition, another recent RCT has shown improved OS after SBRT and palliative standard-of-care treatment for oligometastatic non-small cell lung cancer (NSCLC) as compared with palliative standard-of-care treatment alone [3]. In patients with oesophagogastric cancer, RCTs for oligometastatic disease are ongoing [4], [–] [10] while non-randomised trials have suggested improved OS after local treatment for oligometastasis as compared with systemic therapy alone [11,12]. However, interpretation and comparison of individual studies are hampered by different clinical definitions of oligometastatic disease, heterogeneity in case mix, selection bias, and various treatment strategies probably due to a lack of international consensus and guidelines.

A comprehensive definition of oligometastatic disease is necessary to initiate studies on the benefit of treatment strategies in this group of patients. For this purpose, the OligoMetastatic Esophagogastric Cancer (OMEC) consortium was established. OMEC is a consortium of 50 oesophagogastric cancer expert centers in Europe and is endorsed by the European Organisation for Research and Treatment of Cancer (EORTC), European Society for Radiotherapy and Oncology (ESTRO), European Society of Medical Oncology (ESMO), European Society of Surgical Oncology (ESSO), European Society for Diseases of the Esophagus (ESDE), the European chapter of the International Gastric Cancer Association (IGCA) and the Dutch Upper GI Cancer Group (DUCG). The OMEC project aims to develop a European consensus definition for oligometastatic oesophagogastric cancer in organs, as well as extra-regional lymph nodes. Peritoneal disease was not included in the OMEC project, as this is a distinct entity that has already received much attention with hyperthermic intraperitoneal chemotherapy (HIPEC) as the main treatment [13–15]. The OMEC-project consists of 5 studies and includes a systematic review and meta-analysis on oligometastatic oesophagogastric cancer (OMEC-1), the distribution of real-life clinical cases (OMEC-2), Delphi consensus rounds (OMEC-3), the

publication of a multidisciplinary European consensus statement on oligometastatic oesophagogastric cancer (OMEC-4) and, finally, a prospective study for oligometastatic oesophagogastric cancer (OMEC-5).

The current study (OMEC-2) was conducted to assess the definitions and treatment strategies for oligometastatic disease used in daily practice across multidisciplinary tumour boards (MDTs) in Europe. Decision-making on definition and treatment is based on various variables, such as the organ involved, extra-regional lymph node metastases [11,16], the number of metastases [17], synchronous versus metachronous metastases [18], treatment status of the primary tumour [19], HER2Neu status [20,21], and response to systemic therapy at restaging [5,11]. The assessment of (dis) agreement in definition and management can be used to define oligometastatic oesophagogastric cancer and to identify the currently used treatment options [22]. Therefore, oesophagogastric cancer expert centres were requested to discuss 15 real-life clinical cases in their MDT to assess the agreement in definition and treatment strategies for oligometastatic oesophagogastric cancer across MDTs in Europe.

2. Material and methods

This study was approved by the institutional review board of the UMC Utrecht, and the need for informed consent was waived for this study. This study has been carried out in accordance with The Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments involving humans and is in line with the Recommendations for the Conduct, Reporting, Editing and Publication of Scholarly Work in Medical Journals. The methodology of this study was comparable with a simulated multidisciplinary expert opinion study on oligometastatic non-small cell lung cancer by the EORTC Lung Cancer Group [23].

2.1. Identification of cases

A search was performed of real-life patients with distant metastases from oesophagogastric cancer with adenocarcinoma or squamous cell carcinoma histology. Distant metastasis was limited to either a distant organ or 1–2 extra-regional lymph node stations (according to TNM 8th edition) [24]. All patients were in good clinical condition with few to no comorbidities and were discussed at the MDT of the UMC Utrecht or Amsterdam UMC, both in The Netherlands, between 2015 and 2020. The cases varied in terms of 1. Location of metastatic lesions (e.g. liver or lung); 2. Number of metastatic lesions (one or two); 3. Timing of detection (synchronous, interval [i.e. detected at restaging after neoadjuvant treatment before surgery], or metachronous); 4. Primary tumour treatment status (surgery with or without neoadjuvant chemoradiotherapy, definitive chemoradiotherapy or no primary tumour treatment); 5. Histology (adenocarcinoma or squamous cell carcinoma), HER2 Neu status (positive, negative or mixed [i.e. the difference in the HER2 Neu status between the metastasis and the primary tumour]) and microsatellite stability; and 6. Response to systemic therapy at restaging. The response to systemic therapy at restaging was categorised into no progression (i.e. complete or partial response, or stable disease), progression in size only of the metastatic lesion(s) (i.e. $\geq$20% growth in size), or progression in the number of lesions. The response to systemic therapy at restaging was classified according to response evaluation criteria in solid tumours (RECIST 1.1) [25]. Table 1 shows the characteristics of the presented cases.

2.2. MDT case discussion

The 15 real-life clinical cases were provided to 49 European oesophagogastric cancer experts on 23rd March 2020 using an online tool (Castor EDC). These experts were either identified by EORTC, ESTRO, ESMO, ESSO, ESDE, IGCA or DUCG or identified by a systemic review of first or last authors of published RCTs related to oesophagogastric cancer between 2015 and 2020.

2.3. Discussion of clinical cases

The experts were required to host a local MDT with at least a surgical oncologist, medical oncologist, and radiation oncologist present to discuss the 15 real-life clinical cases before 1st August 2020. The case information consisted of 1. The patient history (including primary tumour stage and treatment), 2. The current problem (including location and size of distant metastasis), 3. Pathology of the primary tumour and metastasis (including histology, HER2Neu status, and microsatellite stability), and 4. Imaging of the primary tumour and metastasis (^{18}F-fluorodeoxyglucose positron emission tomography [^{18}F-FDG PET], computed tomography [CT], or magnetic resonance imaging [MRI]). The experts were not aware of the actual diagnosis or treatment of the real-life clinical cases.

Fig. 1 shows an example of a real-life clinical case provided to the expert. The first question for this case was: 'Does the MDT consider this patient to have oligometastatic disease?' If the answer was 'no', the questions for this specific case stopped. If the answer was 'yes', subsequent questions were asked regarding the treatment for the oligometastasis. The case continued only if the answer was 'systemic therapy followed by

Table 1
Characteristics of the real-life clinical cases included in the survey.

Case	1. Location of oligometastasis	2. Number of lesions	3. Timing of detection	4. Primary tumour treatment	5. Histology and HER2neu	6. Response to systemic therapy
1.	Liver (unilobar)	1	Metachronous (12 months)	cT3N1 distal oesophagus treated with dCRT	AC HER2: − MSS	Progression in size only
2.	Liver (unilobar)	2	Metachronous (4 months)	cT2N1 distal oesophagus treated with nCRT + surgery	ypT2N0 AC HER2: + MSS	Progression in size only
3.	Liver (bilobar)	2	Synchronous	cT3N2 distal oesophagus	AC HER2: − MSS	Progression in number of lesions
4.	Retroperitoneal lymph node (right)	1	Interval	cT3N3 distal oesophagus treated with nCRT	SCC	Stable disease
5.	Retroperitoneal lymph node (left)	1	Synchronous	cT3N1 cardia	AC HER2: − MSS	Complete response
6.	Neck lymph node (level IV)	1	Interval	cT3N1 mid oesophagus treated with nCRT	SCC	Progression in number of lesions
7.	Neck lymph node (level III + IV)	2	Synchronous	cT3N2 distal oesophagus	SCC	Complete response
8.	Lung unilateral (left upper lobe)	1	Metachronous (24 months)	cT4b(aorta)N2 mid oesophagus treated with nCRT + surgery	ypT0N1 SCC	Progression in number of lesions
9.	Lung bilateral (right and middle lobe)	2	Synchronous	cT2N0 proximal oesophagus	SCC	Stable disease
10.	Adrenal gland	1	Metachronous (12 months)	cT3N3 distal oesophagus treated with nCRT + surgery	ypT3N0 AC HER2: − MSS	Partial response
11.	Adrenal gland	1	Synchronous	cT3N2M1 cardia	HER2: − MSS	Partial response
12.	Soft tissue (skin)	1	Metachronous (4 months)	pT1sm2N0 treated with surgery	pT2N0 AC HER2: − MSS	Stable disease
13.	Soft tissue (muscle)	1	Metachronous (24 months)	cT2N0 distal oesophagus treated with nCRT + surgery	ypT3N1 HER2:-; MSS	Progression in number of lesions
14.	Bone (arm)	1	Metachronous (1 month)	cT3N3 distal oesophagus treated with nCRT + surgery	ypT3N0 SCC	Progression in number of lesions
15.	Bone (claviula)	1	Synchronous	cT3N1 distal oesophagus	AC HER2: mixed MSS	Complete response

dCRT = definitive chemoradiotherapy; nCRT = neoadjuvant chemoradiotherapy; AC = adenocarcinoma; SCC = squamous cell carcinoma; MSS = microsatellite stable.

restaging to consider local treatment' (Fig. 2). At restaging, the case information consisted of: 1. The current problem at restaging (including the response of the primary tumour and metastasis to systemic therapy) and 2. Restaging imaging of the primary tumour and metastasis (^{18}F FDG PET/CT, MRI, or CT). Next, the following question was asked: 'Does the MDT consider this patient to have oligometastatic disease *at restaging*?' If the answer was 'no', questions for this specific case stopped. If the answer was 'yes', subsequent questions were asked regarding the treatment for the oligometastasis. If all the questions were completed, the next case was presented (built-in data verification tool).

2.4. Outcome measure

The primary outcome of this study was the agreement across MDTs in Europe on the definition of oligometastatic oesophagogastric cancer at diagnosis and after systemic therapy ('not oligometastatic disease' versus 'oligometastatic disease'). The secondary outcome of this study was the agreement across MDTs in Europe on treatment strategies for oligometastatic oesophagogastric cancer. Treatment strategies for oligometastatic disease were categorised into upfront local treatment (e.g. metastasectomy, SBRT, or other local oligometastasis-directed treatment), systemic therapy

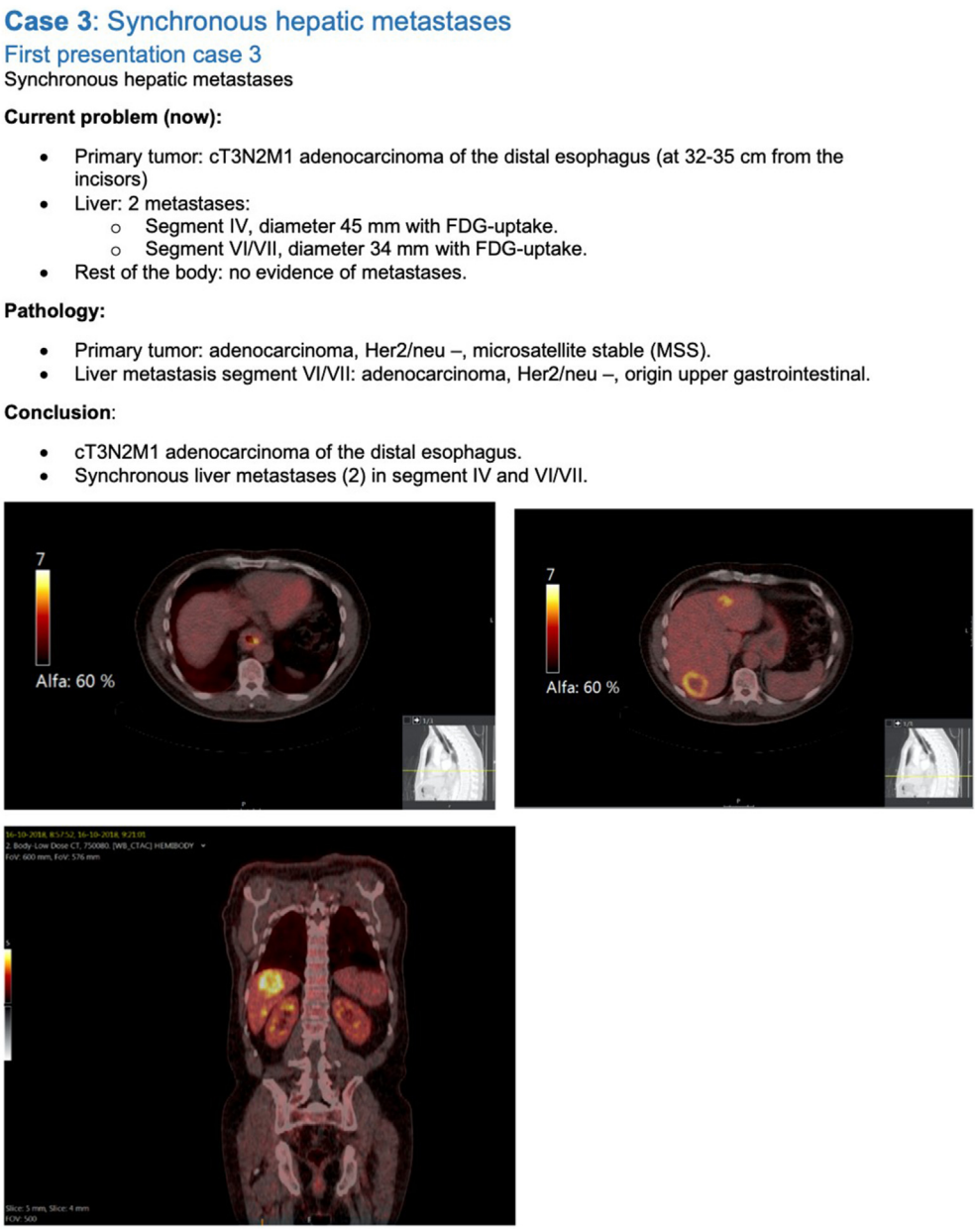

Fig. 1. Baseline information of real-life clinical case #3 included in this survey.

followed by restaging to consider local treatment for oligometastatic disease, or systemic therapy alone (without considering local treatment for oligometastasis later).

2.5. Statistical analysis

Regarding the primary and secondary outcome, the agreement across MDTs was either scored as absent/poor (<50% agreement), fair (50%–75% agreement) or consensus (≥75% agreement), comparable with recent studies on the definition of oligometastatic disease for other tumours [26–28]. According to a recent systemic review, the most common definition for consensus was per cent agreement, with 75% being the median threshold to define consensus among 25 studies [29].

3. Results

3.1. Participant characteristics

A total of 47 MDTs across 16 countries in Europe fully discussed the cases (response rate: 96%). The hospital type was university medical center in 79%, comprehensive cancer center in 15%, and community medical center in 6%. Centers were generally high-volume (i.e. 91% of centers performed >30 oesophagectomies or gastrectomies per year). Besides a medical oncologist, surgical

Follow-up case 3

Current problem (at follow-up):

- Primary tumor: residual disease (confirmed by endoscopy with bite-on-bite biopsy).
- Liver:
  - Metastasis segment VI/VII: reduction in size, diameter 15 mm (previously 45 mm) and no more FDG-uptake.
  - Metastasis segment IV: no longer visible on imaging (previously diameter 34 mm).
- New right supraclavicular lymph node metastasis
- Rest of the body: no evidence of metastases.

Pathology (right supraclavicular lymph node)

- Adenocarcinoma, Her2/neu –, origin upper gastrointestinal.

Conclusion:

- Primary tumor: residual disease at follow-up (distal esophageal adenocarcinoma).
- Liver:
  - Metastasis segment VI/VII, reduction in size.
  - Metastasis segment IV, no longer visible on imaging at follow-up.
- New right supraclavicular lymph node metastasis.

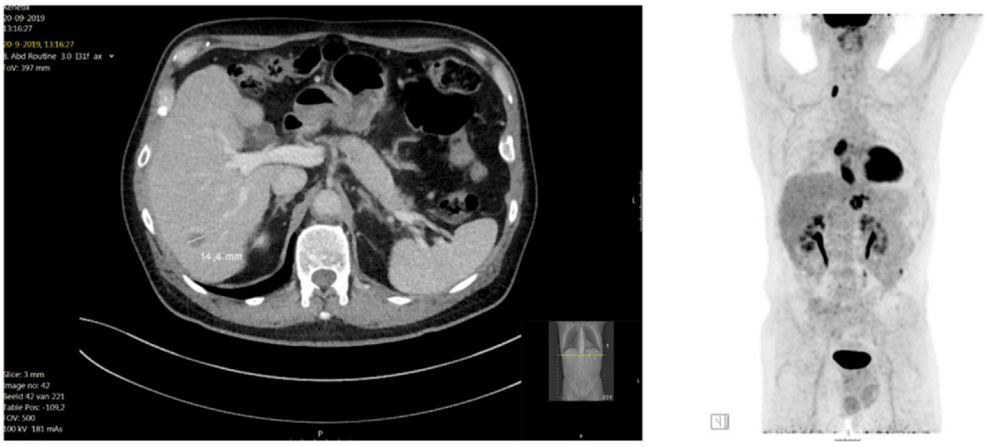

Fig. 2. Follow-up information of real-life clinical case #3 included in this survey.

oncologist, and radiation oncologist, the following specialities were present at the MDT meetings: a radiologist in 60%, a gastroenterologist in 49%, a pathologist in 40%, and a nuclear medicine physician in 28%. Table 2 shows the characteristics of the participating MDTs.

3.2. Definition of oligometastatic disease

Oligometastatic disease was considered when one or two metastases in either liver, lung, retroperitoneal lymph nodes, adrenal gland, soft tissue, or bone were present (consensus). In addition, oligometastatic disease was considered at restaging after median 18 weeks of systemic therapy when no progression or progression in size only of the oligometastatic lesion(s) was seen (consensus). If at restaging after systemic therapy the number of lesions increased, this was not considered as oligometastatic disease (fair agreement).

The definition of oligometastatic disease was not limited to one lesion, as one lesion or two lesions were considered oligometastatic (consensus). Moreover, the definition of oligometastatic disease was not limited to a specific primary tumour treatment status, as a resected or definitively irradiated primary tumour with a subsequent complete response was considered oligometastatic

Table 2
Characteristics of the participating multidisciplinary tumour boards.

Characteristic	n = 47 (%)
Yearly volume of gastrectomies	
1–10	1 (2.1)
11–20	2 (4.3)
21–30	9 (19.1)
31–50	21 (44.7)
>50	14 (29.8)
Yearly volume of oesophagectomies	
1–10	5 (10.6)
11–20	4 (8.5)
21–30	4 (8.5)
31–50	11 (23.4)
>50	23 (48.9)
Type of center	
University medical center	37 (78.7)
Comprehensive cancer center	7 (14.9)
Community medical center	3 (6.4)
Work experience >10 years	
Surgical oncologist	45 (95.7)
Medical oncologist	37 (78.7)
Radiation oncologist	35 (74.5)
Additional specialities present at MDT meetings	
Radiologist	28 (59.6)
Gastroenterologist	23 (48.9)
Pathologist	19 (40.4)
Nuclear medicine physician	13 (27.7)
Clinical geneticist	2 (4.3)

Table 3
Agreement in definitions of oligometastatic oesophagogastric cancer

Factor	Number of cases	Agreement	Conclusion
1. Location of oligometastasis			
Liver	3	83 - 100%	Consensus
Lung	2	81 - 100%	Consensus
Retroperitoneal lymph nodes	2	79 - 94%	Consensus
Adrenal gland	2	94 - 100%	Consensus
Soft tissue	2	98 - 100%	Consensus
Bone	2	83 - 89%	Consensus
Neck lymph nodes	2	62 - 72%	Fair agreement
2. Number of lesions			
One	10	79 - 100%	Consensus
Two	3	81 - 100%	Consensus
3. Primary tumor treatment			
nCRT and surgery	5	83 - 100%	Consensus
Surgery alone	1	98%	Consensus
Definitive chemoradiotherapy	1	100%	Consensus
4. Histology and HER2 status			
Her2 positive adenocarcinoma	1	100%	Consensus
Her2 negative adenocarcinoma	7	83-100%	Consensus
Her2 mixed adenocarcinoma*	1	89%	Consensus
Squamous cell carcinoma	4	79-100%	Consensus
5. Timing of detection			
Synchronous	5	83-94%	Consensus
Interval**	1	79%	Consensus
Metachronous	7	83-100%	Consensus
6. Restaging after systemic therapy			
No progression***	7	75-100%	Consensus
Progression in size only****	2	97-100%	Consensus
Progression in number of lesions	2	59-60%	Fair agreement

nCRT = neoadjuvant chemoradiotherapy * = difference in HER2neu status of the primary tumor and the metastasis; ** = detected after nCRT before surgery; *** = <20% growth in size and no new lesions; **** = ≥20% growth in size and no new lesions; green = consensus; orange = fair agreement

(consensus). Also, the definition of oligometastatic disease was not limited to a specific histology or HER2Neu status, as either HER2Neu positive, HER2Neu mixed or HER2Neu negative tumour, or with squamous cell carcinoma histology were considered oligometastatic (consensus). Finally, the definition of oligometastatic disease was not limited to a particular timing of detection, as synchronous, interval, or metachronous metastasis were considered oligometastatic (consensus). Table 3 shows the agreement across MDTs on the definition of oligometastatic oesophagogastric cancer.

3.3. Restaging of oligometastatic disease

^{18}F-FDG PET/CT imaging was used for restaging after systemic therapy in patients with either lung, retroperitoneal lymph node, adrenal gland, soft tissue, or bone oligometastasis (consensus). For patients with liver oligometastasis, either MRI or ^{18}F-FDG PET/CT imaging was used for restaging after systemic therapy (fair agreement). Table 4 shows the agreement in restaging modalities for oligometastatic oesophagogastric cancer.

Table 4
Agreement in restaging modalities for oligometastatic oesophagogastric cancer

Factor	Number of cases	^{18}F-FDG PET/CT	CT	MRI	Agreement
Organ					
Liver	3	67-80%	35-58%	50-70%	Fair
Lung	2	92%	31-36%	0-8%	Consensus
Retroperitoneal lymph nodes	2	83-87%	50-53%	0-33%	Consensus
Adrenal gland	2	100%	40-42%	0%	Consensus
Soft tissue	2	85-97%	31-52%	5-6%	Consensus
Bone	2	85-90%	33-46%	43%	Consensus

^{18}F-FDG PET = ^{18}F-fluorodeoxyglucose positron emission tomography; CT = computed tomography; MRI = magnetic resonance imaging; green = consensus; orange = fair agreement

3.4. Treatment strategies for oligometastatic disease

No consensus on treatment strategies for oligometastatic oesophagogastric cancer was identified across presented cases. However, if the number of lesions increased at restaging after a median of 18 weeks of systemic therapy, consensus was reached that systemic therapy should be continued (rather than local treatment for oligometastasis). Upfront local treatment for oligometastatic disease was recommended with a fair agreement for soft tissue oligometastasis, a resected or definitively irradiated primary tumour or with interval or metachronous HER2Neu negative oligometastasis. Systemic therapy followed by restaging to consider local treatment for oligometastatic disease was recommended with fair agreement for HER2Neu positive or HER2-Neu mixed tumours. Local treatment for oligometastatic disease after a median of 18 weeks of systemic therapy was recommended with a fair agreement when no progression (i.e. partial or complete response or stable disease) or progression in size only of the oligometastatic lesion(s) was seen at restaging. Table 5 shows the agreement in treatment strategies for oligometastatic oesophagogastric cancer across MDTs.

4. Discussion

This is the first study investigating the agreement in the definition and treatment of oligometastatic oesophagogastric cancer in European expert centers. Consensus (i.e. $\geq$75% agreement) across MDTs was reached that the term oligometastatic disease was appropriate across presented cases with oesophagogastric cancer with one or two metastases in either liver, lung, retroperitoneal lymph nodes, adrenal gland, soft tissue, or bone. In addition, the term oligometastatic disease remained appropriate at restaging after a median of 18 weeks of systemic therapy when no progression or progression in size only of the oligometastatic lesion(s) was seen. However, in contrast to the consensus on the definition of oligometastatic disease, we found no consensus (i.e. <75% agreement) across MDTs regarding the treatment strategies that should be followed in the case of oligometastatic disease. In fact, a considerable variation in treatment approaches for oligometastatic oesophagogastric cancer across European oesophagogastric cancer expert centers was exposed. This lack of consensus on treatment strategies can partly be explained by the lack of evidence-based guidelines to guide treatment decision-making and the lack of completed RCTs for oligometastatic oesophagogastric cancer.

If oligometastatic disease was no longer considered at restaging after systemic therapy (i.e. the number of lesions increased), a consensus was reached that presented cases should not receive local treatment for oligometastatic disease but rather subsequent systemic therapy. The administration of systemic therapy followed by restaging allows for the identification of patients with (suspected) oligometastatic disease at baseline but with an actual biologically aggressive tumour who might not benefit from local treatment for oligometastatic disease [12]. This treatment protocol is currently being investigated in 2 ongoing phase III RCTs by the Arbeitsgemeinschaft fur Internistische Onkologie (AIO) [5] and the Eastern Cooperative Oncology Group (ECOG) [6]. In both trials, including patients with synchronous oligometastatic gastric or oesophagogastric cancer, local treatment for the primary tumour and metastases will be performed at restaging after systemic therapy in patients with a partial or complete response. However, this study identified a fair agreement (i.e. 50-75% agreement) across MDTs that local treatment for oligometastatic disease was also appropriate at restaging after median 18 weeks of systemic therapy when progression in size only of the oligometastatic lesion(s) was seen.

Despite the potential advantage of the administration of systemic therapy first to identify patients who benefit the most from local treatment for oligometastatic disease, which is incorporated in several ongoing RCTs for oligometastatic oesophagogastric cancer and German S3 guidelines [5,6,10,15,30], upfront local treatment for oligometastatic disease was recommended with a fair agreement across MDTs for presented cases with soft

Table 5
Agreement in treatment strategies for oligometastatic disease

Factor	Number of cases	Upfront local treatment	Systemic therapy to consider local treatment	Systemic therapy	Conclusion
1. Location of oligometastasis					
Liver	3	0-45%	40-74%	4-26%	No agreement
Lung	2	31-89%	6-47%	0-18%	No agreement
Retroperitoneal lymph nodes	2	2-51%	27-86%	11-14%	No agreement
Adrenal gland	2	2-57%	36-77%	5-20%	No agreement
Soft tissue	2	55-63%	28-43%	0-2%	Fair agreement
Bone	2	33-87%	13-50%	0-14%	No agreement
2. Number of lesions					
One	10	2-89%	6-86%	0-20%	No agreement
Two	3	8-32%	45-74%	3-26%	No agreement
3. Primary tumor treatment					
nCRT and surgery	5	8-89%	6-68%	0-21%	No agreement
Surgery alone	1	63%	28%	9%	Fair agreement
Definitive CRT	1	54%	40%	6%	Fair agreement
4. Histology and HER2 status					
Adenocarcinoma (overall)	9	0-63%	28-70%	0-22%	No agreement
Her2: positive adenocarcinoma	1	8%	70%	22%	Fair agreement
Her2: negative adenocarcinoma	7	0-63%	28-86%	0-26%	No agreement
Her2: mixed adenocarcinoma	1	33%	50%	16%	Fair agreement
Squamous cell carcinoma	4	29-89%	6-45%	0-18%	No agreement
5. Timing of detection					
Synchronous	5	0-33%	45-86%	11-26%	No agreement
Interval	1	51%	27%	17%	Fair agreement
Metachronous	7	8-89%	6-70%	0-21%	No agreement
Metachronous HER2-	6	54-89%	7-70%	0-21%	Fair agreement
6. Restaging after systemic therapy					
No progression	7	59-100%	NA	0-14%	Fair agreement
Progression in size only*	2	59-95%	NA	5-41%	Fair agreement
Progression in number of lesions	3	0-21%	NA	79-100%	Consensus

NA = not applicable; nCRT = neoadjuvant chemoradiotherapy; CRT = chemoradiotherapy; * = i.e. ≥20% growth in size but no new lesions; green = consensus; orange = fair agreement

tissue oligometastasis, a resected or a definitively irradiated primary tumour, metachronous or interval HER2neu negative oligometastasis. The use of upfront local treatment for oligometastatic disease in these presented cases might be explained by the timing of detection of the oligometastasis (metachronous) and thus after previous systemic therapy for the primary tumour.

A consensus statement for the definition and treatment strategies of oligometastatic oesophagogastric cancer could reduce practice variability, increase the quality of care and offer all patients the optimal treatment approach for oligometastatic disease [31]. The findings of this study (OMEC-2), together with a systematic review on the definition of oligometastatic oesophagogastric cancer (OMEC-1), will be used for a multidisciplinary consensus statement on the definition and treatment of oligometastatic oesophagogastric cancer (OMEC-4). This consensus statement will result in a prospective study for oligometastatic oesophagogastric cancer (OMEC-5).

Strengths of this study include the excellent response rate of 96%, the use of real-life clinical cases, and the distribution of these real-life clinical cases to MDTs of oesophagogastric cancer expert centers in Europe, resulting in real-life multidisciplinary (dis)agreement. Therefore, this study provides a largely unbiased reflection of clinical practice and excellent generalisability. However, a limitation was that this study could not address the causes of (dis)agreement, and these causes will be investigated in subsequent steps of the OMEC project.

In conclusion, 47 multidisciplinary tumour boards of European oesophagogastric cancer expert centers fully discussed 15 real-life clinical cases. A multidisciplinary consensus was identified on the definition of oligometastatic oesophagogastric cancer at diagnosis and after systemic therapy. However, no consensus and even high practice variability in treatment decision-making for oligometastatic disease was established. This practice variability could potentially impact on quality of care. The findings of this study and a systematic review on the definition of oligometastatic oesophagogastric cancer will be used for a consensus statement on the diagnosis and treatment of oligometastatic oesophagogastric cancer in the OMEC project.

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Data sharing

The data that support the findings of this study are available from the corresponding author, upon reasonable request.

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Conflict of interest statement

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