

ERS Task Force MPM : search strategy

A first literature search was performed in November 2016 using the Ovid Medline system. This research was performed by a scientific librarian (VD), experienced in searching for medical and scientific publications, and by physicians, experts in the treatment of thoracic neoplasms and trained in evidence-based medicine. Ovid Medline database was searched using the OvidSP interface. The “Population, Intervention, Comparison, Outcome” (PICO) questions model for clinical questions was used to identify the concepts included in the questions [1]. The corresponding search criteria were translated into MeSH terms, free-text keywords and name of substances or interventions (Appendix). Results were limited to articles published from 2009 to the present. It was a search strategy decision to limit the search starting 2009 after the previous ERS/ESTS guidelines to restrict it to pertinent citations as a systematic search of the literature till 2008 was done by the previous Taskforce. Citations were exported from Medline into reference manager databases (EndNote) to allow the removal of duplicates and to facilitate the selection process performed by reviewers. All articles retrieved by the librarian selected for their eligibility by two authors based on the title and abstract and the final selection was performed by reading the full publication and its inclusion was consensually decided. This search was supplemented by screening the references of the selected articles and other literature known by the experts.

An update of the literature was performed on January 2019 in order to capture randomised clinical trials relevant to the clinical questions. A flow chart on Figure 1 can be found in supplemental online material.

1 Sackett DL, Straus SE, Richardson WS, et al. Evidence-Based Medicine. How to Practice and Teach EBM. Asking Answerable Clinical Questions. 2nd Edn. Edinburgh, Churchill Livingstone, 2000; pp. 13–27

Appendix 1. Search strategy Medline

List of MeSH terms and free-text keywords used to search Ovid Medline database

Database: *Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid Medline® Daily and Ovid Medline® 1946-present*

Search for P [Malignant pleural mesothelioma]:

P = ((Mesothelioma/ OR Mesothelioma, Cystic/ OR mesothelioma*.ti,ab) AND (Pleura/ OR Pleural Neoplasms/ OR Pleural Effusion, Malignant/ OR pleura*.ti,ab))

Section 4 : surgery – P1 : Role of palliative surgery for symptomatic malignant pleural mesothelioma

I = pleurectom*.ti,ab

Section 4 : surgery – P2 : Surgical treatment of malignant pleural mesothelioma

I = pleurectom*.ti,ab OR extrapleural pneumonectomy*.ti,ab OR extended pleuropneumonectomy*.ti,ab OR extended right pleuropneumonectomy*.ti,ab OR extended left pleuropneumonectomy*.ti,ab

Section 5 : radiotherapy – P1 : Role of Radiotherapy after resected MPM

I = Postoperative Period/ OR postoperative.ti,ab

Section 5 : radiotherapy – P2 : Role of ‘palliative’ radiotherapy in MPM

I = exp Radiotherapy/ OR radiotherap*.ti,ab OR irradiation*.ti,ab

Section 7 : multimodal – P1 : What is optimal multimodality treatment?

I = Combined Modality Therapy/ OR Chemoradiotherapy/ OR Chemotherapy, Adjuvant/ OR Neoadjuvant Therapy/ OR Photochemotherapy/ OR Radioimmunotherapy/ OR Radiotherapy, Adjuvant/ OR multimodal* treatment*.ti,ab OR multimodal* therap*.ti,ab OR multimodal* management.ti,ab OR bimodal* treatment*.ti,ab OR bimodal* therap*.ti,ab OR bimodal* management.ti,ab OR trimodal* treatment*.ti,ab OR trimodal* therap*.ti,ab OR trimodal* management.ti,ab OR combined modality therap*.ti,ab OR combined modality treatment*.ti,ab OR combined modality management.ti,ab

Section 8 : Treatment allocation absorbed in MCR Question – P1 : Which patients are eligible for which surgical treatment?

I = pleurectom*.ti,ab OR extrapleural pneumonectomy*.ti,ab OR extended pleuropneumonectomy*.ti,ab OR extended right pleuropneumonectomy*.ti,ab OR extended left pleuropneumonectomy*.ti,ab OR Thoracic surgical procedures/ OR thoracoscopy/ OR thoracotomy/ OR thoracostomy/ OR pulmonary surgical procedures/ OR Pneumonectomy/

O = Prognosis/ OR Treatment outcome/ OR Hospital mortality/ OR Mortality/ OR Survival/ OR Survival rate/ OR Disease-Free Survival/ OR "Quality of Life"/ OR exp Intraoperative Complications/ OR exp Postoperative Complications/ OR complication*.ti,ab OR prognosis.ti,ab OR survival.ti,ab OR treatment outcome*.ti,ab OR mortality.ti,ab OR quality of life.ti,ab

Section 6 : Medical tretament – P1 : 1. What is the role of systemic therapy in the treatment of MPM ?

I = Drug Therapy/ OR Antineoplastic Protocols/ OR Antineoplastic Combined Chemotherapy Protocols/ OR Chemoradiotherapy/ OR Consolidation Chemotherapy/ OR exp Drug Administration Routes/ OR exp Drug Administration Schedule/ OR exp Drug Delivery Systems/ OR exp Drug Prescriptions/ OR Drug Therapy, Combination/ OR Antineoplastic Combined Chemotherapy Protocols/ OR Drug Therapy, Computer-Assisted/ OR Electrochemotherapy/ OR exp Enzyme Therapy/ OR Home Infusion Therapy/ OR Induction Chemotherapy/ OR Maintenance Chemotherapy/ OR Molecular Targeted Therapy/ OR Photochemotherapy/ OR exp Angiogenesis Modulating Agents/ OR exp Immunotherapy/ OR Bevacizumab/ OR Cetuximab/ OR Imatinib Mesylate/ OR Erlotinib Hydrochloride/ OR Dasatinib/ OR Valproic Acid/ OR Thalidomide/ OR Bortezomib/ OR Everolimus/ OR Sirolimus/ OR exp Interleukins/ OR exp Interferons/ OR drug therap*.ti,ab OR antineoplastic protocol*.ti,ab OR chemotherap*.ti,ab OR drug administration.ti,ab OR chemoradiotherap*.ti,ab OR drug delivery.ti,ab OR drug prescription*.ti,ab OR electrochemotherap*.ti,ab OR enzyme therap*.ti,ab OR infusion therap*.ti,ab OR targeted therap*.ti,ab OR photochemotherap*.ti,ab OR angiogenesis modulating agent*.ti,ab OR angiogenesis inducing agent*.ti,ab OR angiogenesis inhibitor*.ti,ab OR angiogenesis modulator*.ti,ab OR angiogenesis agent*.ti,ab OR angiogenesis factor.ti,ab OR angiogenesis inducer*.ti,ab OR angiogenesis stimulat*.ti,ab OR immunotherap*.ti,ab OR immunization*.ti,ab OR immunosuppression*.ti,ab OR radioimmunotherap*.ti,ab OR vaccin*.ti,ab OR Bevacizumab.ti,ab,nm OR Cetuximab.ti,ab,nm OR Avastin.ti,ab,nm OR Erbitux.ti,ab,nm OR Nintedanib. ti,ab,nm OR BIBF 1120.ti,ab,nm OR BIBF1120.ti,ab,nm OR Gefitinib.ti,ab,nm OR Iressa.ti,ab,nm OR ZD1839.ti,ab,nm OR ZD 1839.ti,ab,nm OR Erlotinib.ti,ab,nm OR OSI-774.ti,ab,nm OR OSI774.ti,ab,nm OR CP 358774.ti,ab,nm OR Imatinib.ti,ab,nm OR Dasatinib.ti,ab,nm OR Cixutumumab.ti,ab,nm OR anti-IGF-1R antibody A12.ti,ab,nm OR Tivantinib.ti,ab,nm OR ARQ 197.ti,ab,nm OR Vorinostat.ti,ab,nm OR 18F-SAHA.ti,ab,nm OR Belinostat.ti,ab,nm OR Belecodaq.ti,ab,nm OR PXD101.ti,ab,nm OR Valproate.ti,ab,nm OR Ranpirnase.ti,ab,nm OR Pannon.ti,ab,nm OR Onconase.ti,ab,nm OR Thalidomid*.ti,ab,nm OR Sedoval.ti,ab,nm OR Sunitinib.ti,ab,nm OR Sutent.ti,ab,nm OR Vatalanib.ti,ab,nm OR Sorafenib.ti,ab,nm OR Nexavar.ti,ab,nm OR Cediranib.ti,ab,nm OR Pazopanib.ti,ab,nm OR Votrient.ti,ab,nm OR Axitinib.ti,ab,nm OR Inlyta.ti,ab,nm OR Dovitinib.ti,ab,nm OR NGR-hTNF.ti,ab,nm OR tumor necrosis factor-

alpha.ti,ab,nm OR Ramucirumab.ti,ab,nm OR Cyramza.ti,ab,nm OR Bortezomib.ti,ab,nm
 OR Velcade.ti,ab,nm OR Everolimus.ti,ab,nm OR Afinitor.ti,ab,nm OR Certican.ti,ab,nm
 OR Sirolimus.ti,ab,nm OR Rapamycin.ti,ab,nm OR Rapamune.ti,ab,nm OR
 Selumetinib.ti,ab,nm OR RAD 001.ti,ab,nm OR RAD001.ti,ab,nm OR AZD 6244.ti,ab,nm
 OR AZD6244.ti,ab,nm OR Ganetespib.ti,ab,nm OR STA 9090.ti,ab,nm OR
 STA9090.ti,ab,nm OR Defactinib.ti,ab,nm OR Ipilimumab.ti,ab,nm OR Yervoy.ti,ab,nm
 OR Tremelimumab.ti,ab,nm OR ticilimumab.ti,ab,nm OR Nivolumab.ti,ab,nm OR
 Opdivo.ti,ab,nm OR Pembrolizumab.ti,ab,nm OR lambrolizumab.ti,ab,nm
 OR Keytruda.ti,ab,nm OR Atezolizumab.ti,ab,nm OR MPDL3280A.ti,ab,nm OR
 Durvalumab.ti,ab,nm OR Avelumab.ti,ab,nm OR Amatuximab.ti,ab,nm OR MORAb-
 009.ti,ab,nm OR SS1P.ti,ab,nm OR anetumab ravtansine.ti,ab,nm OR BAY 94-
 9343.ti,ab,nm OR BNC105P.ti,ab,nm OR BNC-105P.ti,ab,nm OR ADI-PEG20.ti,ab,nm
 OR pegylated arginine deiminase.ti,ab,nm OR interleukin*.ti,ab,nm OR
 interferon*.ti,ab,nm OR EZH.ti,ab,nm OR enhancer of zeste homolog.ti,ab,nm [=891.677]

Legend : *term/* = MeSH term (with all the possible subheading combinations)
 exp = exploded MeSH term, meaning that this MeSH term and all the MeSH
 terms found below in the hierarchy are taken into consideration.
 .ti,ab,nm = terms are searched in the title, the abstract and the name of substance
 * = stands for zero or more characters
 ? = stands for one single character