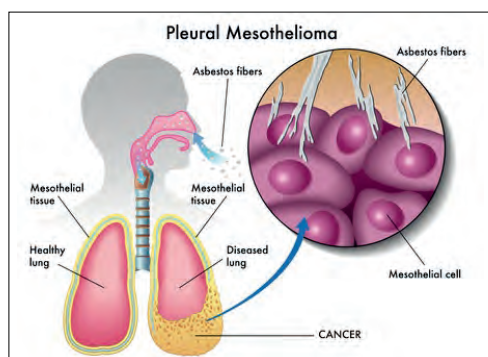


Did You Know? Mesothelioma

Take-home message

- Asbestos is the main etiological agent of the MPM. Tobacco is not a risk factor but a multiplicative factor.
- Mesothelioma is often asymptomatic during its early stages of development.
- The only known risk factor is asbestos. It is classified as a carcinogen by the International Agency for Research on Cancer (IARC)



- Mesothelioma is a rare malignant tumor that affects mesothelial cells, a protective membrane that covers most of the body's internal organs including the pleura, peritoneum and pericardium.

This tumor can develop from the membrane that surrounds the lungs (the pleura), the heart (the pericardium), the intestines (the peritoneum), the testicles and the ovaries.

Pleural cancer, called Malignant Pleural Mesothelioma (MPM), alone represents more than 80% of mesotheliomas.

In more than 90% of cases, the cause of mesothelioma is the exposure to asbestos which is considered as occupational disease.

The latency period between the exposure to asbestos and the detection of mesothelioma is very long, up to 30 to 40 years. Life expectancy is low with median survival of about one year from the diagnosis of mesothelioma.

Complications

- Hoarse voice
- Pain in the lower back or on the chest side
- Worsening or persistent cough
- Respiratory problems
- Difficulty in swallowing

Possible treatment

- Techniques to treat mesothelioma include: surgery, rarely radiotherapy for restricted indications, and especially chemotherapy.
- As for other forms of cancer, stage determination is important to clarify the therapeutic strategy.

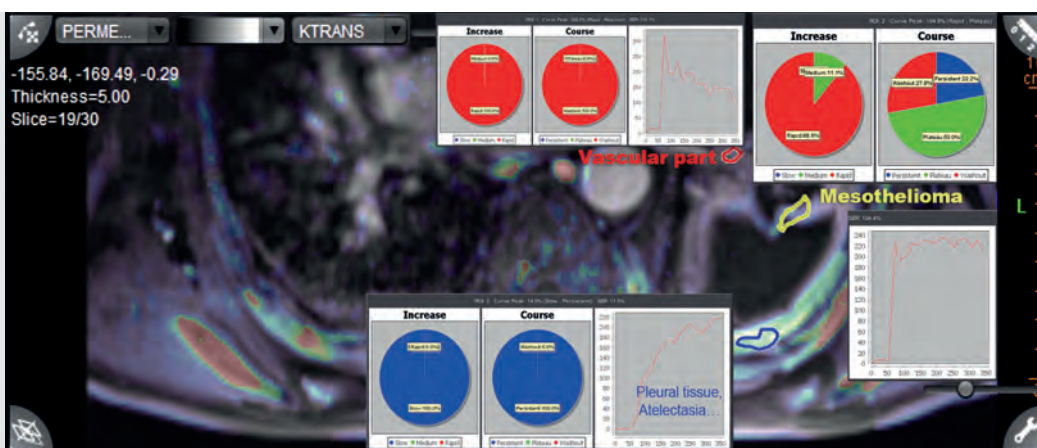
In Olea Sphere®?

The multiparametric study including the **DWI, Permeability** and **Analysis** plugins in Olea Sphere®, will make it possible to **differentiate the tumor (mesothelioma), fibrosis, pleural effusion and possible hemorrhages.**

Thus, the MRI sequences of **T2, Diffusion, T1** and **dynamic contrast enhanced T1** each have their role to **help radiologist to do his diagnosis.** The **ROIs** automatically synchronized on each plane of view, allow to create **pie charts of pixel intensity distribution**, which will help to **differentiate between fibrosis, tumors and vessels** for certain cases of hyper vascularized mesotheliomas.



The CT-scan is still the privileged modality but in recent years several publications propose a promising alternative with MRI. Some studies also seem to establish a potential interest in ADC values and the use of IVIM in this pathology.



Sources: ■ <http://www.mesothelioma.fr/info.htm> ■ <http://www.iarc.org/infocancer/localisations/voies-aeriennes/mesotheliome-pleural/le-diagnostic-et-la-stadification.html> ■ http://www.oncologik.fr/index.php/Oncolor:M%C3%A9soth%C3%A9liome_pleural ■ <http://www.vulgaris-medical.com/encyclopedie-medicale/mesotheliome> ■ http://www.orpha.net/consor/cgi-bin/OC_Exp.php?Lng=FR&Expert=50251 ■ <http://www.cancer.be/les-cancers/types-de-cancers/m-soth-liome> ■ <http://www.cancer-environnement.fr/85-Mesotheliome.ce.aspx> ■ http://www.oncologik.fr/index.php/Oncolor:M%C3%A9soth%C3%A9liome_pleural ■ Dynamic contrast-enhanced MRI of malignant pleural mesothelioma: a comparative study of pharmacokinetic models and correlation with mRECIST criteria. M. Vivoda Tomšič, K. Šurlan Popovič, S. Bisdas, V. Kováč, I. Seršar, I. Jubišana/SI, 2 London/UK ■ Malignant Pleural Mesothelioma: Visual Assessment by Using Pleural Pointillism at Diffusion-weighted MR Imaging; Johan Coolen, MD, Frederik De Keyser, MSc, Philippe Nafteux, MD, Walter De Wever, MD, PhD, Johan Vansteenkiste, MD, PhD, Aurélie Derweduwen, MD, PhD, Ilse Roebben, MSc, Eric Verbeke, MD, PhD, Paul De Leyn, MD, PhD, Dirk Van Raemdonck, MD, PhD, Kristiaan Nackaerts, MD, PhD, Steven Dymarkowski, MD, PhD, Johny Verschakelen, MD, PhD; radiology.rsna.org ■ Radiology: Volume 274: Number 2—February 2015 ■ Multimodality Imaging for Characterization, Classification, and Staging of Malignant Pleural Mesothelioma; Larry T. Nickell, Jr, MD, John P. Lichtenberger III, MD, Leila Khorshadi, MD, Gerald F. Abbott, MD, Brett W. Carter, MD; RadioGraphics