

Sistema Socio Sanitario



Regione
Lombardia



Fondazione IRCCS
Policlinico San Matteo

ASST Pavia

ATS Pavia



UNIVERSITÀ
DI PAVIA

GRAND ROUNDS CLINICI con il Policlinico San Matteo

Aula Magna “C. Golgi” & WEBINAR

27 maggio 2025

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Introduzione al mesotelioma pleurico



Diffuse malignant pleural mesothelioma (MPM)

A malignant tumour arising in the pleura from mesothelial cells and showing a diffuse pattern of growth over the pleural surfaces.

Still an “orphan” disease

Pathogenesis

Little is known on molecular mechanisms of mesothelial transformation

Therapy

Uneffective present platinum-based chemo regimens

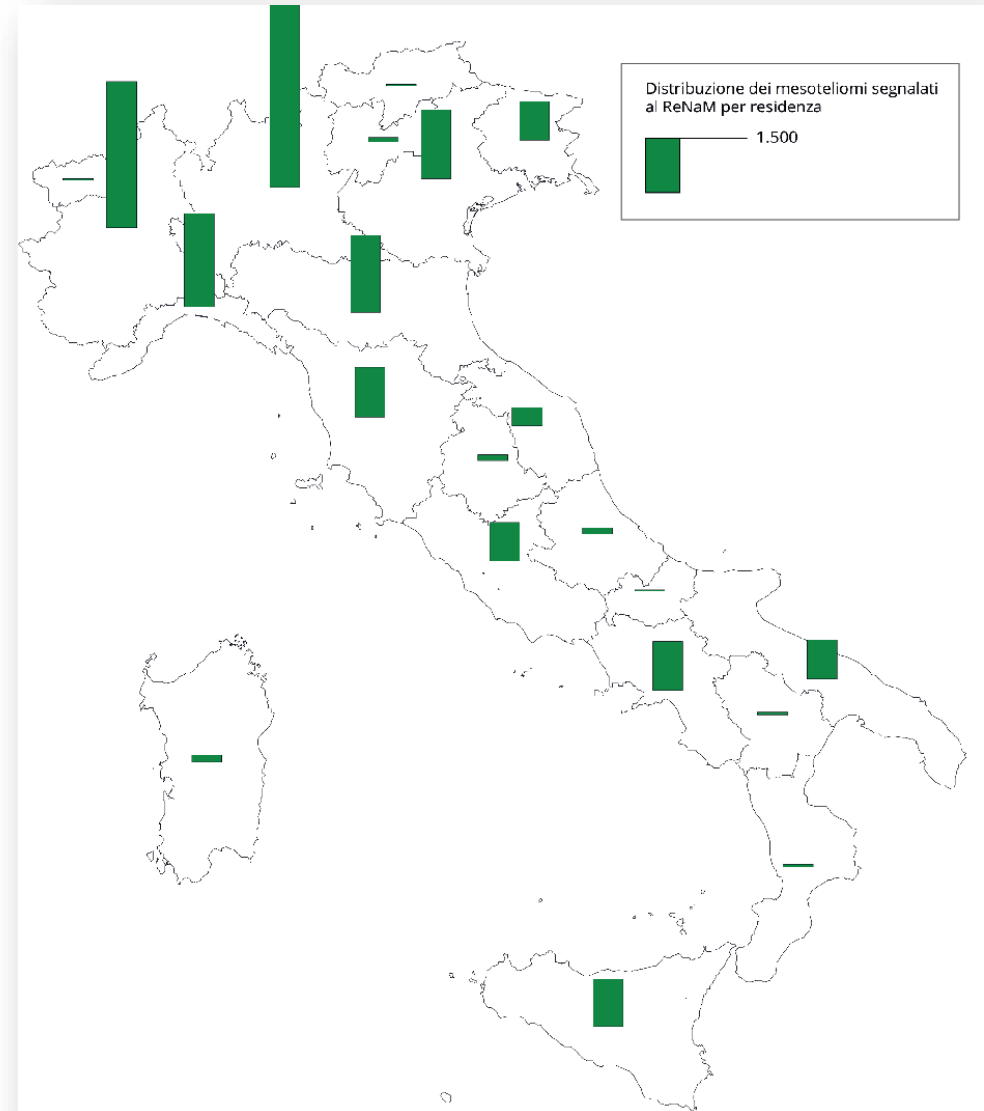


**ASBESTOS: MAIN
ETIOLOGICAL AGENT**

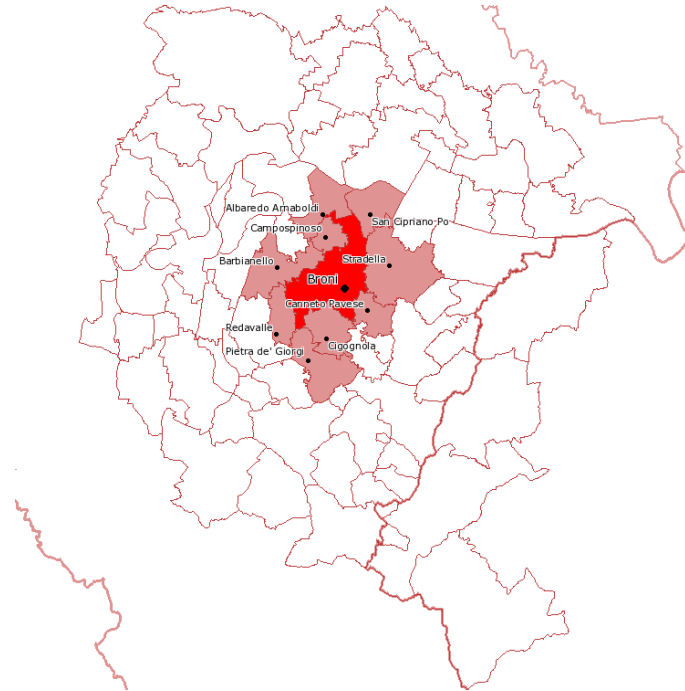
The Italian epidemiology

- 3,86/100.000 males
- 0,27/100.000 females
- Great geographical differences in the MPM incidence
- Mean age at diagnosis:
 - 69,2 yrs (irrespective of gender)

From: *INAIL, ReNaM (Registro Nazionale Mesoteliomi), Sesto rapporto (2018)*



The Pavia province



Concentration of risk in Oltrepò,
with town of Broni and
surrounding municipalities



Fibronit plant from 1933 to 1993



3.798 workers

Amianto: esposizione



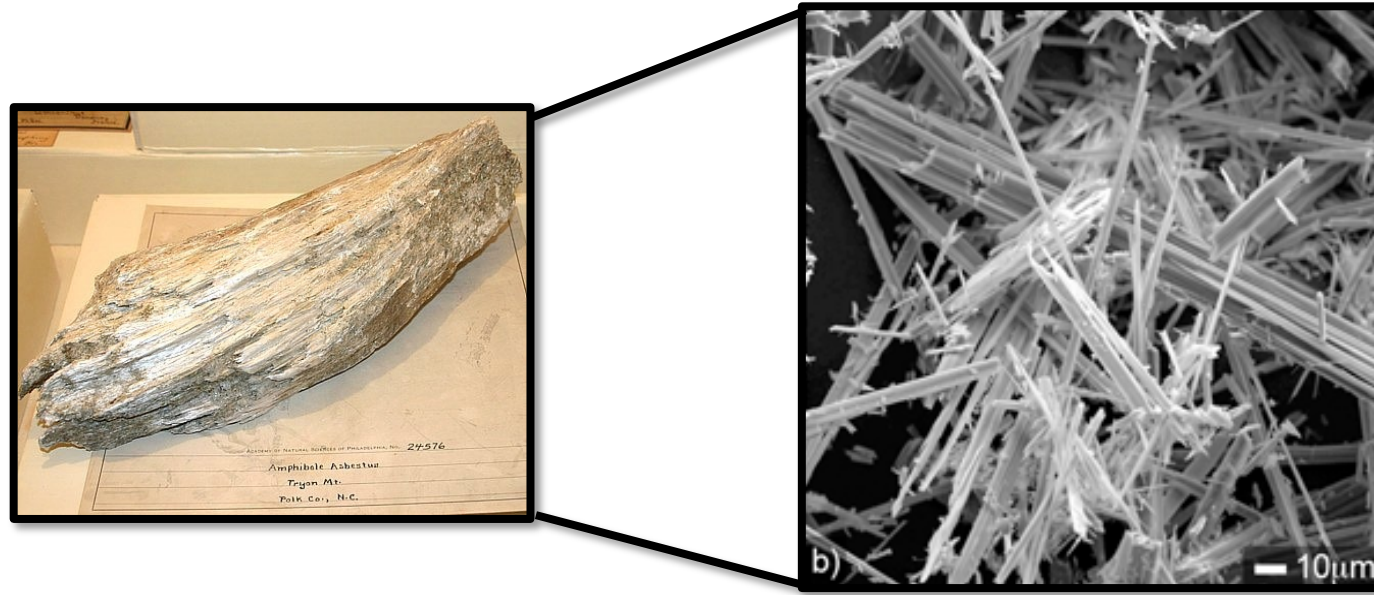
- ReNaM: 27.356 casi di mesotelioma maligno dal 1993 al 2015.
- Modalità di esposizione approfondite per 21.387 casi (78,2%).
- 70% casi: esposizione professionale (certa, probabile, possibile).
- 4,9% familiare; 4,4% ambientale; 1,5% attività di svago o hobby.
- Per il 20% dei casi l'esposizione è improbabile o ignota.

La Fibronit di Broni



- Produzione di cemento-amianto dal 1933 al 1994.
- 3.798 lavoratori dipendenti nell'intero arco produttivo.
- Dal 1994 al 1998 produzione di fibrocemento senza amianto negli stessi locali non bonificati.
- SIN ad elevato inquinamento: bonifica tuttora in corso.
- A ridosso del centro abitato: elevata esposizione ambientale.

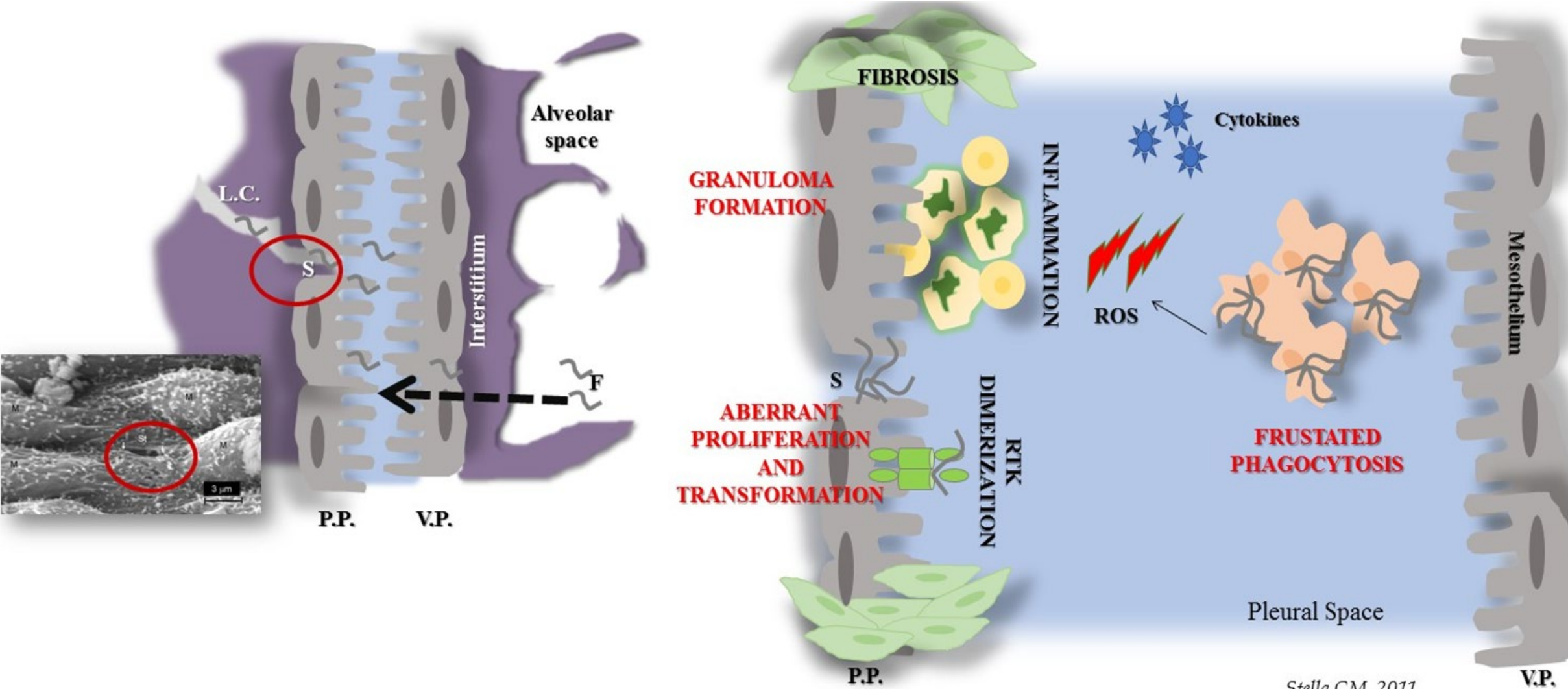
Asbestos fibers structure



Asbestos is perfectly safe in its primary state basically a type of solid rock, but is a significant health hazard when mined or worked in such a way as to produce the carcinogenic nanometer-scale fibrous particles that become airborne aerosol and are, therefore, readily absorbed in the lungs

Asbestos fibers are 2D nanoparticles = nanofibers

Pathological and biological effects induced by biopersistent fibers in the pleural space



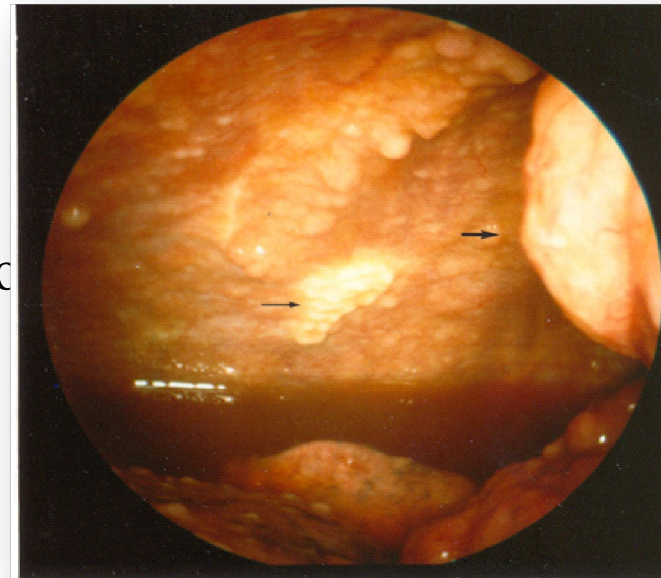
Sintomatologia e diagnosi

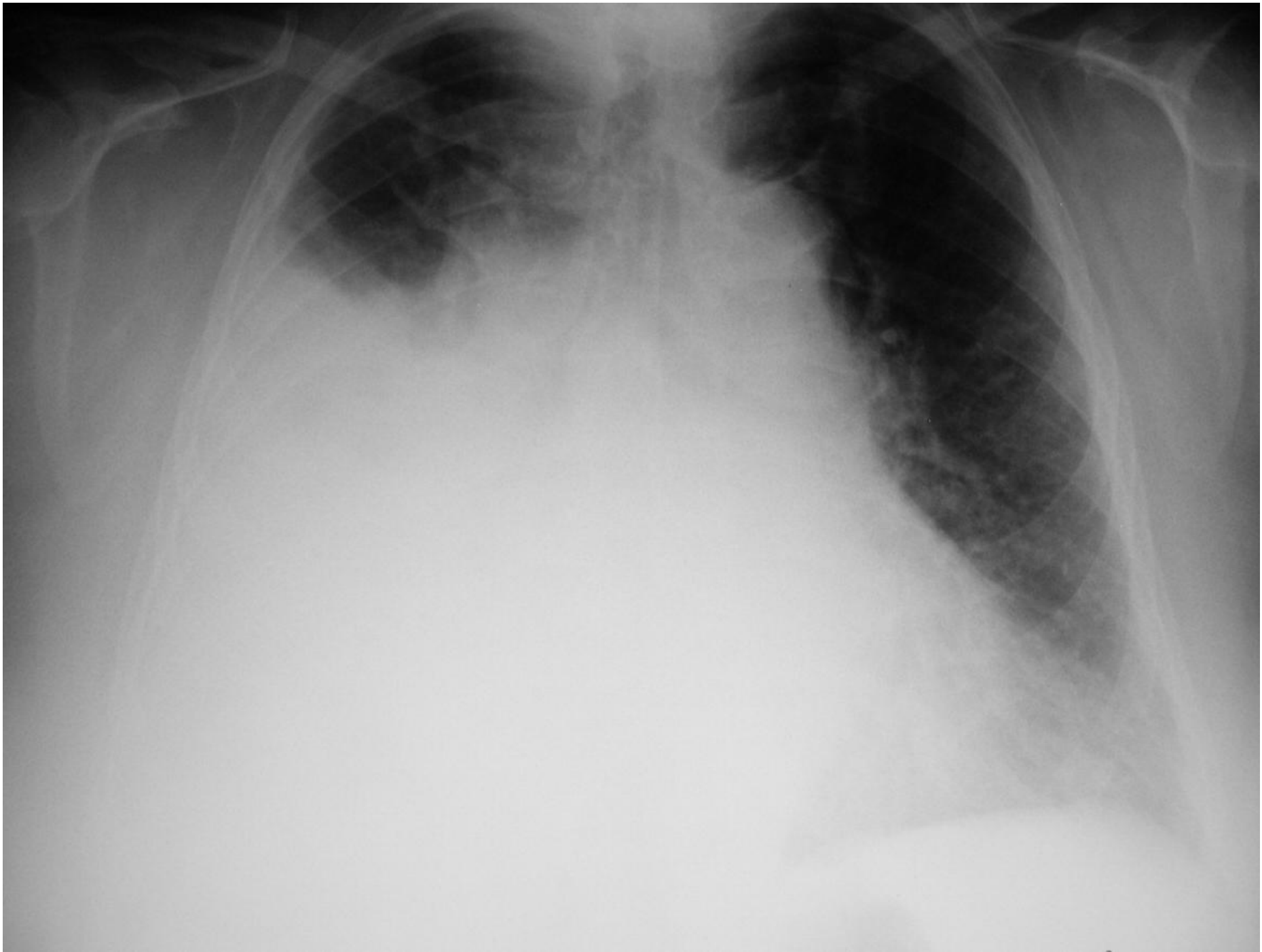
SINTOMATOLOGIA

- Aspecifica: dispnea (versamento), dolore toracico
- Da progressione locale (invasione/compressione)
- Da interessamento delle altre sierose (peritoneo: ascite; pericardio: tamponamento)
- Sindromi paraneoplastiche

DIAGNOSI

- Anamnesi accurata
- Se versamento pleurico: citologia su liquido pleurico
- Imaging (TC, PET, RM)
- Gold standard: biopsia toracoscopica





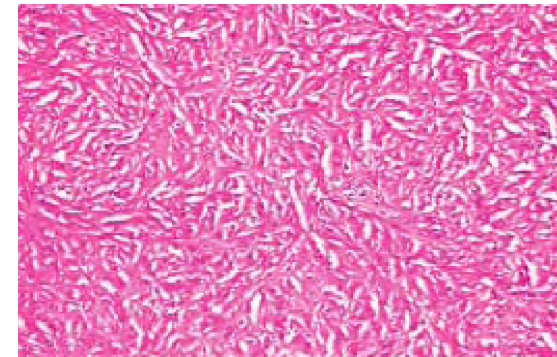
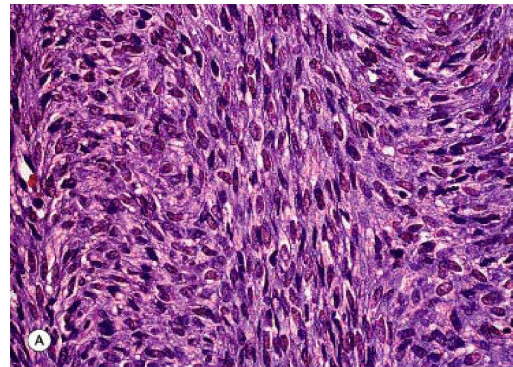
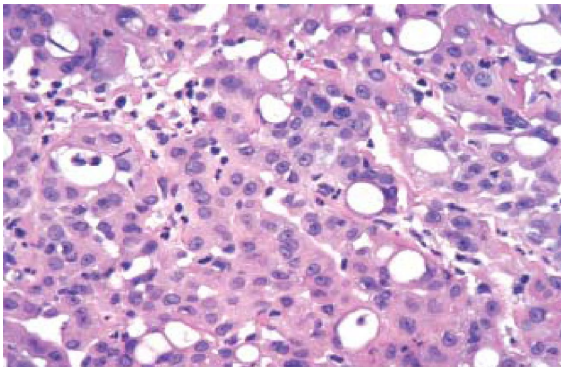
Istotipi

Epitelioidi (50-70%) □ diversi pattern di crescita, cellule cuboidi o piatte, citoplasma eosinofilo, nuclei tondeggianti.

Sarcomatoide (7-20%) □ cellule fusate (spindle cells) disposte in un pattern di tipo casuale, o cellule giganti anaplastiche.

Bifasico (20-35%), □ differenziazione sia in senso sarcomatoide che epitelioidi

Desmoplastico (forma rara) □ >50% del tessuto: stroma eosinofilo di tipo desmoplastico.



Molecular mechanisms of asbestos-induced pleural oncogenesis:

What is still missed



How to early diagnose MPM?



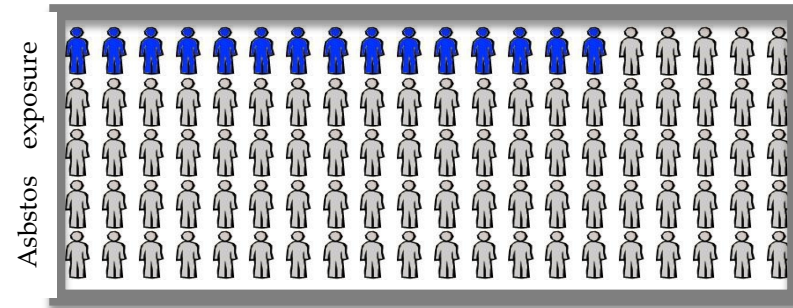
Which is the transcriptome profile of MPM?



Which is the MPM initiating cell?



Why not all asbestos-exposed people develop MPM ? Role of genetic susceptibility



How to predict MPM risk after asbestos exposure?
How to design effective screening programs?

L'esperienza locale: il PDTA

Definito e condiviso nel 2014 nell'ambito Dipartimento Interaziendale Provinciale Oncologico (DIPO) di Pavia



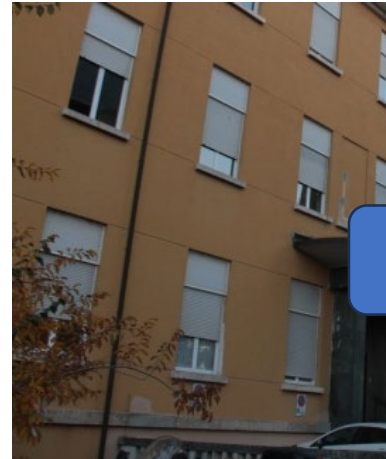
Sinergia tra ATS, ASST ed IRCCS San Matteo per creare un percorso di assistenza del paziente affetto da mesotelioma maligno.

Codifica e standardizza percorsi di diagnosi e cura patologia-specifico ed i Centri che erogano le prestazioni necessarie.

L'esperienza locale: il PDTA

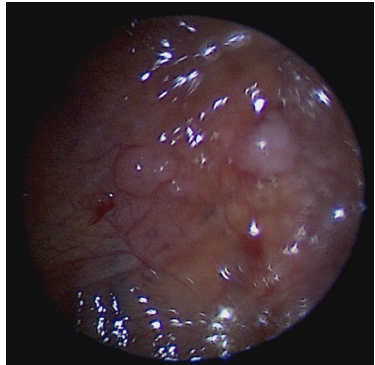
Articolazione su due livelli:

- Ambulatorio di I livello (PRESST Broni)
- Ambulatorio multidisciplinare di II livello (IR)



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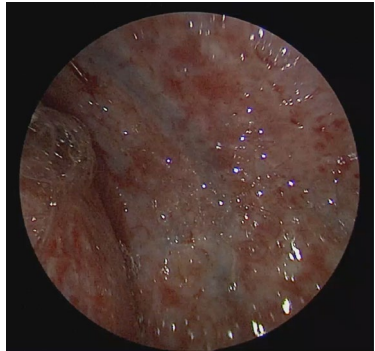
Garantisce elevati standard nel percorso di diagnosi e cura mantenendo un legame capillare con il territorio



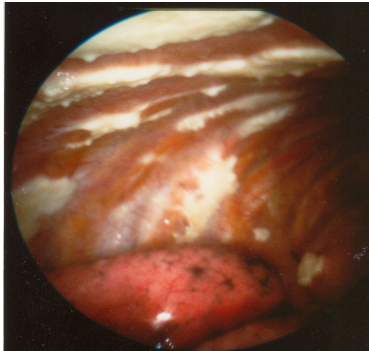
Nodular lesions
(parietal pleura)



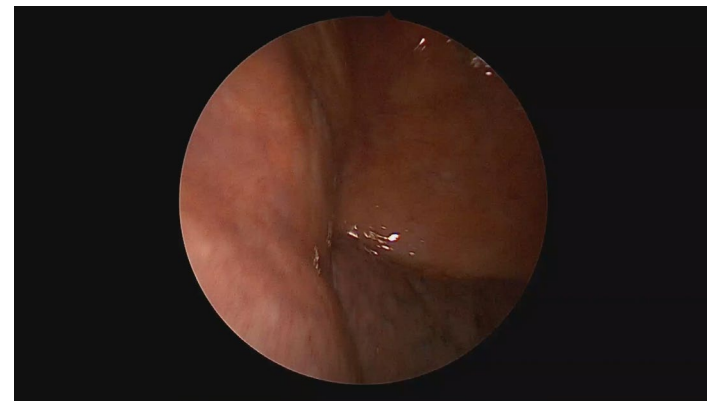
Aberrant pleural proliferation



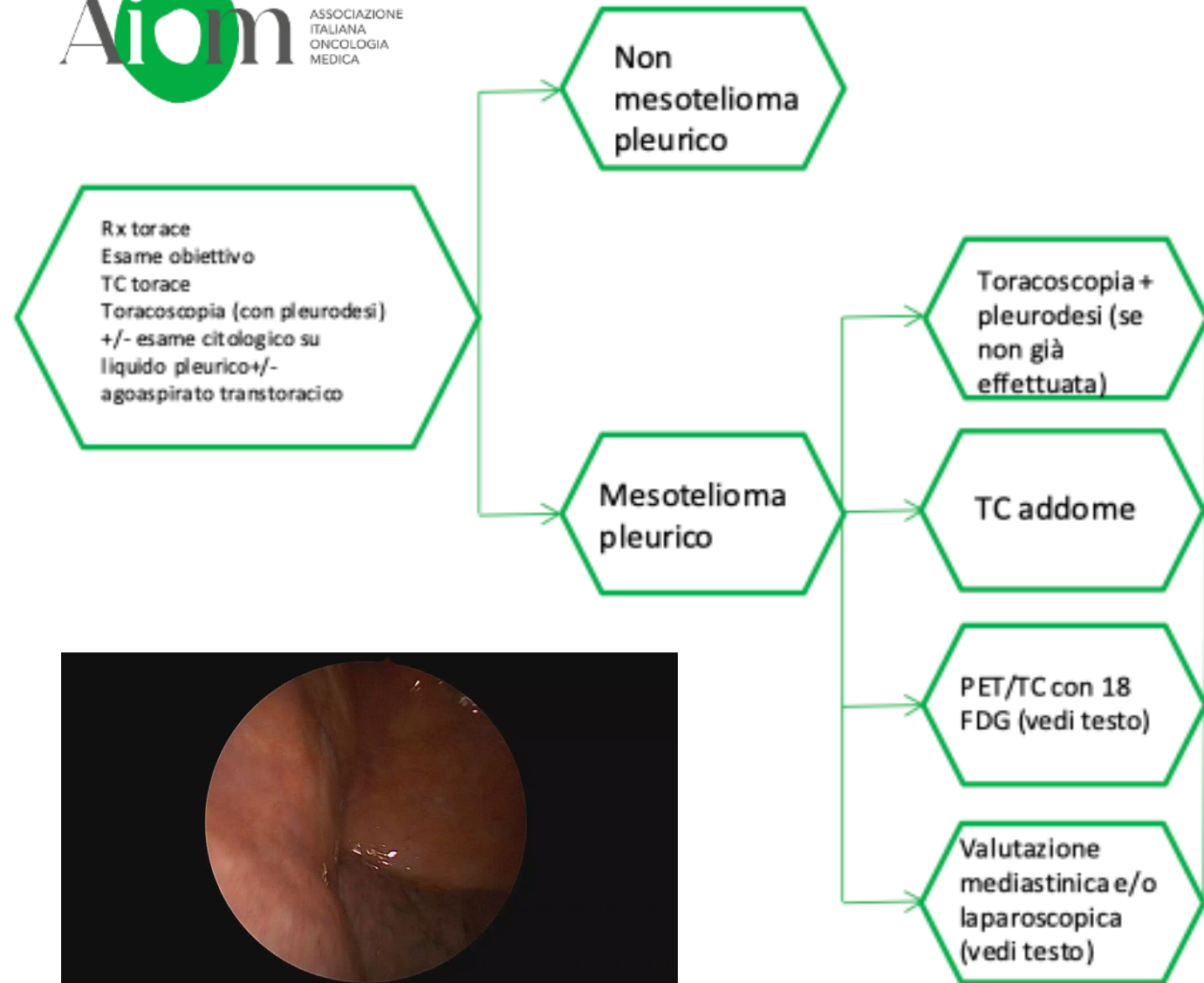
Densely diffuse and irregular
thickened pleura



Pleural plaques



Courtesy Dr. S. Tomaselli and Dr. L. Saracino



Courtesy Dr. S. Tomaselli and Dr. L. Saracino

