Prostate Cancer (PC) Metastasized to the Lungs

Compiled by Charles (Chuck) Maack – Prostate Cancer Advocate/Mentor

A read of the URLs in this paper provide a reasonably comprehensive understanding of what one faces and what will have to be decided along with as much discussion as one may want with several physicians with expertise in treating prostate cancer that has metastasized to the lung. At least initially, androgen deprivation therapy (ADT3 highly recommended) should be prescribed that, if successful, should rein in continued development of PC wherever it is located in the system. If successful, this gives time to get second, third, fourth opinions as to what else might be considered. Talk to physicians with supposed expertise in treating lesions that have metastasized to the lungs. Take notes. If surgery is contemplated, determine which physician appears to have the most expertise and reasonable recommendations. Ask how many such surgeries have been performed. Ask about success rates. Ask how many were unsuccessful and why. Ask about complications that can come from the attempt of surgical removal of lesions from the lung. Do the same with Radiation Oncologists who have had experience in treating prostate cancer that has metastasized to the lungs. Discuss with Medical Oncologists treatment with androgen deprivation therapy and whether inclusion of chemotherapy agents would be appropriate. In the meantime, diet and supplements should be also be considered. A Mediterranean style diet is most often recommended (see **http://tinyurl.com/6obsym**). Here is a URL that explains "How is lung cancer treated" Once accessed, you can scroll down to that topic line, then can click to subsequent pages:
http://www.medicinenet.com/lung_cancer/page6.htm

Following are references to, specifically, prostate cancer that has metastasized to the lungs. A difference in treating metastasized prostate cancer to the lungs as opposed to treating lung cancer may be in the drugs employed to treat, specifically, prostate cancer no matter where in the anatomy the prostate cancer exists.
http://www.fccc.edu/cancer/types/lung/metastases.html
http://www.urmc.rochester.edu/encyclopedia/content.cfm?pageid=P93014
http://lungcancer.ucla.edu/adm_lung_metastases.html

c-MET HGFR Protein can be used in the treatment of lung cancer or cancer metastasized to the lungs. A somewhat basic description of this procedure follows and I have hi-lighted what this treatment is anticipated to accomplish.

c-MET HGFR Protein Description

MET pathway plays an important role in the development of cancer through:

- activation of key oncogenic pathways (RAS, PI3K, STAT3, beta-catenin);
- angiogenesis (sprouting of new blood vessels from pre-existing ones to supply a tumor with nutrients);
- scatter (cells dissociation due to metalloprotease production), which often leads to metastasis.[30]

Coordinated down-regulation of both MET and its downstream effector extracellular signal-regulated kinase 2 (ERK2) by miR-199a* **may be effective in inhibiting not only cell proliferation but also motility and invasive capabilities of tumor cells.:**

The proto-oncogene MET encoded product MET (mesenchymal-epithelial transition factor), also known as c-Met or hepatocyte growth factor receptor (HGFR), **is a multifaceted regulator of growth, motility, and invasion, and is normally expressed by cells of epithelial origin**. As the prototypic member of a small subfamily of growth factor receptors, c-Met/HGFR is synthesized as a single chain precursor, and is processed into a mature disulfide-linked heterodimer composed of a extracellular α subunit and a transmembrane β subunit via post-translational cleavage. c-Met/HGFR is identified as a glycosylated receptor tyrosine kinase (RTK), and HGF is the only known ligand. Following ligand binding and autophosphorylation, c-Met/HGFR transmits intercellular signals using a unique multisubstrate docking site which mediates the binding of multiple SH2-containing adapter proteins such as Grb2, SHC, Crk/CRKL, as well as Gab1. Normal c-Met/HGFR signaling is essential for embryonic development, tissue repair or wound healing**, whereas aberrantly active c-Met/HGFR has been strongly implicated in tumorigenesis, particularly in the development of invasive and metastatic phenotypes**. Two transcript variants encoding different isoforms have been identified.