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Podcast Transcript
Episode 45

Hello *Mollie Medcast* listeners and welcome back. *Mollie Medcast* is the podcast for the biomedical journal, *Molecular Medicine*. My name is Veronica Davis, communications editor here at *Molecular Medicine* and your host for this podcast episode. In this week's podcast we're going to discuss three different types of cancer. First, we'll go over the last of the March-April articles: "A Molecular Portrait of Hepatocellular Carcinoma" and a review, "Detection of Circulating Prostate Cancer Cells"; and then we'll sum up the cover article for our May-June issue: "Breast Cancer: Clues for Carcinogenesis in the Mitochondrial Genome".

I'm going to start by taking a minute to remind you about what our goal here is at *Molecular Medicine*. Our I'm going to start by taking a minute to remind you about what our goal here is at *Molecular Medicine*. Our mission is to publish novel work that's concerned with understanding the pathogenesis of disease at the molecular level, which may lead to the design of specific molecular tools for disease diagnosis, treatment, and prevention. If you're interested in submitting a manuscript to the journal, please visit our Web site, www.molmed.org and click on author center for information. Alright, so let's get started with this podcast.

First up:

A Molecular Portrait Of HCV-Related Hepatocellular Carcinoma

Eighty percent of liver tissue is composed of hepatocytes, and cancer arising from these specific cells is called hepatocellular carcinoma or HCC.¹ Liver cancer rates in the US are increasing due to the prevalence of hepatitis C virus or HCV. Hepatocellular carcinoma due to HCV may be an indirect result of hepatocyte turnover that occurs as the liver replaces infected cells. Chronic inflammation, immune-mediated hepatocellular destruction, and liver regeneration underlie cirrhosis and are thought to play central roles in primary carcinogenesis. Dr. Valeria Mas and colleagues studied the genes involved in viral tumorigenesis and tumor initiation in HCV-induced HCC. The paper title is, "Genes Involved in Viral Carcinogenesis and Tumor Initiation in Hepatitis C Virus-Induced Hepatocellular Carcinoma." They identified gene signatures that distinguish the pathological stages of HCC and potential molecular markers for early HCC diagnosis in high risk cirrhotic HCV patients. These findings provide a comprehensive molecular portrait of genomic changes in progressive HCV-related HCC.

Next is:

Circulating Tumor Cells In Prostate Cancer

Prostate cancer is the most commonly diagnosed cancer among men in Western countries. Preexisting metastases and those which develop after treatment are the leading cause of morbidity and mortality in patients. Bone metastasis occurs in more than 85% of cases, and patients with bone lesions cannot be cured. The authors in Greece review current literature regarding molecular methods for circulating tumor cell or CTC detection in the peripheral blood and bone marrow biopsies of prostate cancer patients, and discuss methodological pitfalls that influence molecular staging. The title of their paper is, "Detection of Circulating Tumor Cells in Prostate Cancer Patients: Methodological Pitfalls and Clinical Relevance."

Lastly, the cover story for May-June:

Breast Cancer: Clues for Carcinogenesis in the Mitochondrial Genome

Breast cancer is the number one threat to women's health worldwide and the race is on to find more successful treatments, and strengthen prevention through a greater understanding of its cause. An important measure of a cell's likelihood to progress to a cancerous state is genomic instability, which can be found wherever DNA is found - including mitochondria. Dr. Walter Pavicic and colleagues in Argentina explore whether or not mitochondrial genomic instability can be linked with polymorphisms in xenobiotic metabolizing enzymes that could be crucial for protecting breast tissue from carcinogens. Indeed, the causes of many cancers, from breast to leukemia, are related to our bodies' inability to successfully ward off these environmental dangers. The authors present this work to further our understanding of the mechanism underlying increased genomic instability and its relation to breast carcinogenesis.

And that's it for this week's episode of *Mollie Medcast*. For questions or comments regarding this podcast, please feel free to send me an e-mail at: veronica@molmed.org, that's m-o-l-m-e-d.org. You can also e-mail me if you have any scientific meetings that you'd like us to display on our Web site.

If you're taking a coffee break and have a moment, check out our podcast webpage molmed.org/podcast. You can play around with our frappr map and view other *Molecular Medicine* readers from around the globe. If you're not shy, you can even include a picture of yourself. You can also follow *Mollie Medcast* on Twitter by searching for the user name "MollieMedcast" – all one word.

This podcast is available on molmed.org and is up in iTunes. *Molecular Medicine* is published bimonthly by The Feinstein Institute for Medical Research.

From Long Island, New York, this is veronica@molmed.org, thanks for listening!

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1. MedicineNet.com, http://www.medicinenet.com/liver_cancer/article.htm, accessed April 7 2009