**Title: Cardio-Oncology A-Z: Arrhythmias in Cancer Patients**

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**Date:**

**Dr Michael Fradley**

- I am Michael Fradley, and I am from the University of Pennsylvania in Philadelphia, Pennsylvania.

**What are the main cancer treatments that cause this problem?**

So various different cancer treatments can be associated with the development of abnormal heart rhythms, but the ones that we think of majority of the time causing this are the BTK inhibitors, medications like ibrutinib or acalabrutinib. However, we are also seeing this with some of the traditional cytotoxic chemotherapies, as well as other treatments such as immunotherapies. So that's a really interesting question.

**Are there risk factors that predispose patients to this problem?**

So there are the traditional risk factors that we know predispose individuals to developing abnormal heart rhythms, particularly atrial fibrillation, and those would be situations like known cardiovascular disease, things like ischemic heart disease, or cardiomyopathy or heart failure, hypertension, diabetes. However, we are also still trying to learn some of the specific unique risk factors for the cancer patient population that may increase the risk. So while we can certainly say that the traditional risk factors also apply to cancer patients, there are likely to be specifically unique risk factors that we're still learning about.

**How common is this issue?**

It's quite common and, honestly, probably more common than we recognise. So in some series, we're seeing that upwards of 15 to 20% of individuals may have an abnormal heart rhythm in the setting of their cancer treatment.

**Should be screened before treatment or monitored during or after treatment for this?**

So I think both is probably a good idea. So again, I think that screening ahead of time, at least getting a sense of a patient's baseline risk factors, some of those traditional risk factors that I spoke about would be helpful. Now, in terms of initiation of preventative strategies, there's probably not yet a role to be doing that, but at least we can start to identify people that we think may be at increased risk, and that might allow us to better determine who we should monitor for arrhythmias during treatment. The best way to approach monitoring these patients is still up for debate. Does this involve simply evaluating when a patient is symptomatic, or does this take on a more proactive approach where we start utilising ECGs or perhaps wearable devices that we now have at our disposal to better identify individuals who develop these problems?

**How can it best be managed?**

Well, I think the first step is that in order to best manage this condition, we have to have a better understanding of what the true burden of the disease is, and I think that we don't fully understand or grasp how many people are having this problem because traditionally we have have relied upon patient reported symptoms or abnormalities in vital signs. However, we know arrhythmias are a problem that can come and go, and a patient may not always be symptomatic or they may not always have an abnormal vital sign when they're being a evaluated by a healthcare provider. And for that reason, we need to do a better job in terms of really identifying what the true incidents and prevalence of these problems are, and I think that's where we can really start to focus on some of the novel technologies that we have at our fingertips, utilising wearable devices, and really sort of engaging patients to be active participants in the monitoring of their heart rhythm.