New research reveals a link between an inflammation of the inner layer of the heart and cancer, particularly in the abdominal region.

If you are diagnosed with an inflammation in a heart valve, you should be extra watchful. Not only is this disease life-threatening on its own, but it can also be a sign that you have a hidden tumour elsewhere in your body.

So conclude Danish researchers after having examined the unique Danish national patient records, which include data on hospitalisation and diagnosed diseases for every individual Danish citizen. In their new study, the researchers charted the course of diseases for 8,000 people, who at some point during the period 1978-2008 had been hospitalised with endocarditis, which is an infection of the inner linings of the heart.

"We observed a significant link between endocarditis and cancer elsewhere in the body. When patients are diagnosed with endocarditis, doctors should always consider cancer as a possibility," says Reimar W. Thomsen, an associate professor at Aarhus University’s Department of Clinical Epidemiology, who headed the new study, published in the *American Journal of Medicine*.

According to the researchers, cancer can provoke inflammation of the heart because as tumours grow, they can destroy e.g. the intestinal mucosal barrier and thereby transmit bacteria into the bloodstream – particularly cancer bacteria from the abdominal region, such as colon, liver or biliary cancer. These bacteria are carried around the body by the blood.

In the heart, the bacteria are entrapped in the heart valves, which can then react by becoming inflamed and damaged, not least if they have already been damaged.

The inflammation of the heart valves can also be a sign that the immune defence is generally weakened, for instance by blood cancer.

**Tumours or weakened immune defence**

The link between the two conditions provides doctors with a new tool, which can make it easier and quicker to detect hidden cancers in the body.

"This discovery can be used for raising awareness of a link between the two diseases and probably also for diagnosing some cancer patients more quickly than today. And that’s good because the sooner a cancer is diagnosed, the greater the chance of recovery," says Thomsen.

Although endocarditis patients are more likely than the general population to get cancer, the researchers point out that only five percent of the endocarditis patients turned out to have cancer in the first two years of the study.
Inflammation elsewhere is also a signal

Evidence suggests that inflammation in other parts of the body may also signal cancer. An American study from 2010 for instance showed that five percent of all elderly people who were hospitalised with pneumonia developed lung cancer within the following year.

And studies currently conducted by Thomsen and his colleagues show that fungal infections of the mouth or on the genitals can be caused by underlying cancer.

“Doctors should therefore always be aware of the possibility of underlying cancer in patients who are hospitalised with an infection.”

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Reimar W. Thomsen


Sybille Hildebrandt [17]

Dann Vinther

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