

New surgical knife can detect endometrial cancer within seconds

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In news— A recently developed surgical knife capable of identifying tumours can detect endometrial cancer within seconds, allowing people with healthy uteruses to get the 'all-clear' faster.

About the new surgical knife-

- The new study was conducted by researchers at Imperial College London, with the aim of developing a method to ascertain cancer cells in the endometrium (tissue that lines the uterus) as quickly as possible.
- **The researchers found that a surgical tool called iKnife could accurately detect the presence of endometrial cancer.**
- The iKnife is **already being used to spot breast and brain cancer.**
- **The knife uses electric currents on biopsy tissue** and then analyses the vapourised aerosols from the tissue in a mass spectrometer to give real-time information about activity in the tissue.
- **It essentially 'smells' the tissue for cancerous cells.**
- The study noted that the **iKnife reliably diagnosed endometrial cancer in tissue within seconds with an accuracy of 89%.** This would greatly minimise the delays faced by patients who wait for a normal histopathological diagnosis.
- Sample tissues from 150 patients were used in the study, where the knife scanned normal and malignant endometrial tissues.

- With its high diagnostic accuracy of 89% and positive predictive value of 94%, one could immediately reassure the person of the very low likelihood of having cancer if the iKnife result is negative and expedite further tests and scans and treatment for people whose biopsies indicate presence of cancer.
- The iKnife has the potential to transform the way patients who come in for abnormal bleeding are attended to in rapid-access clinics, allowing a diagnosis of endometrial cancer to be quickly ruled out.

Note:

- According to the World Cancer Research Fund International, womb or endometrial cancer is the 6th most commonly occurring cancer among people with uteruses.
- At least 417,000 new cases of endometrial cancer were recorded in 2020 globally.
- In India, at least 26,000 cases of endometrial cancer were recorded in 2020, while in the U.K., where the study was held, around 9,700 cases were recorded every year.
- One of the main symptoms of this cancer is postmenopausal bleeding, with the average age of diagnosis at around 60 years.