

# Cystic Fibrosis Research News

**Title:**

Human papillomavirus prevalence, persistence and cervical dysplasia in females with cystic fibrosis

**Lay Title:** Risk of Human papilloma virus infection and of cervical lesions in females with cystic fibrosis

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**What was your research question?**

Are women with cystic fibrosis with or without transplantation at greater risk of developing Human Papilloma-Virus (HPV) - related cervical diseases?

**Why is this important?**

Human papillomaviruses (HPV) are causative agents in the development of genital premalignant or malignant lesions. HPV is a family of around 100 viruses, including low-risk HPV and, high-risk HPV (which may be responsible for cancerous lesions). Most HPV infections resolve themselves in a couple of days, but in case of a persistent HPV infection, lesions may occur with different steps between infection, precancerous lesions, and cancer. Up to 20% of people with Cystic Fibrosis (CF) in Europe and in the US receive a lung transplant. Transplantation and immunosuppressive treatments are associated with a high risk of HPV

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infection and HPV-related diseases. However, there was almost no data on people with lung transplant.

## **What did you do?**

We conducted a study among 85 transplanted and non-transplanted females attending the Lyon adult CF centre. Women were seen in a gynaecological consultation during which a gynaecological examination, with a pap smear test (for looking at the cells under the microscope and testing on HPV) was performed. The HPV analysis allowed the detection of 35 different HPV type (20 high-risk types, and 15 low-risk types). In cases of an abnormal cell-growth, the management was in accordance with French national recommendations. In addition, in cases of an abnormal cell-growth and/or a positive initial HPV test, patients were followed-up every 6 months during 12 to 24 months.

## **What did you find?**

We reported a high frequency of HPV infection, abnormal pap smears and cervical premalignant lesions among transplanted females with CF. A high frequency of abnormal pap smears and cervical premalignant lesions was also found among non-transplanted females with CF.

Among non-transplanted females, HR-HPV prevalence by age category was not significantly different from that in the general population, as well as HPV persistence, but we found a higher risk of abnormal pap smears and of cervical premalignant lesions.

## **What does this mean and reasons for caution?**

Our results confirmed that transplantation is a risk factor for HPV-related diseases due to immunosuppressive treatments, and that cervical screening should be more frequent (every year) in transplanted females with CF.

The cause of the higher frequency of lesions is still uncertain, but a role of the inadequate cervical mucus can be suspected. Risk among non-transplanted females needs to be confirmed.

## **What's next?**

HPV-vaccination of young girls and boys and cervical screening are efficient ways to prevent HPV-related cancers. Sensitization of CF team on the importance of a regular gynaecological care may improve sexual and reproductive health, and HPV-related diseases prevention and screening.



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