# Kaposi Sarcoma (KS)

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### *WHAT IS KAPOSI SARCOMA?*

Kaposi sarcoma (KS) is a cancer. It originally was known as a disease affecting elderly people assigned male at birth (AMAB) of Eastern European or Mediterranean background. KS also occurs in African AMAB people and people with a weakened immune system. The most common cause of KS now is HIV infection. KS is a sign of AIDS.

KS usually shows up in the skin or in the linings of the mouth, nose, or eyes. KS can also spread to the lungs, liver, stomach, intestines, and lymph nodes. KS involves the development of many new, tiny blood vessels. This process is called angiogenesis. KS is caused by a herpes virus called Human Herpes Virus 8 (HHV-8). In one study, AMAB people with HHV-8 were nearly 12 times more likely to be diagnosed with KS than those who did not have HHV-8.

KS affects about 20% of people with HIV who aren't taking antiretroviral medications (ARVs). The rate of KS has dropped by over 80% since the introduction of antiretroviral therapy (ART). However, rare cases of KS are reported in people whose HIV is under control with normal CD4 cell counts. These new cases seem to be mild and not life-threatening.

KS is more common among AMAB people than among people assigned female at birth (AFAB). It is one of the most visible signs of AIDS, because it usually shows up as spots on the skin (lesions) that look red or purple on light skin and bluish, brownish, or black on dark skin. Lesions often occur on the face, arms, and legs.

KS on the skin is not life threatening. However, KS lesions on the feet and legs can make it difficult to walk. If KS spreads to other parts of the body, it can cause serious problems. In the mouth lining, it can cause trouble eating and swallowing. In the stomach or gut, it can cause internal bleeding and blockages. If KS blocks lymph nodes, it can cause severe swelling of the arms, legs, face, or scrotum. The most serious form of KS is in the lungs, where it can cause a serious cough, shortness of breath, or an accumulation of fluid that can be fatal.

KS can often be diagnosed by looking at the skin lesions. They are usually flat, painless, and do not itch or drain. They can look like a bruise, but a bruise will lose its purple color if you push on it; a KS lesion won't. KS lesions can grow into raised bumps or patches and grow together. Your healthcare provider might take a small sample (a biopsy) from skin spots to examine under a microscope and confirm a diagnosis of KS.

### *HOW IS KS TREATED?*

Suppressing HIV with ART is the best treatment for active KS. In most people, ART alone can stop the growth and even clear up skin lesions. In addition to ART, there are different treatments for KS in the skin or in other parts of the body.

**In the skin,** KS may not have to be treated if there are only a few lesions. Skin lesions can be:

- Frozen with liquid nitrogen
- Treated with radiation
- Cut out surgically
- Injected with anti-cancer drugs or interferon alpha
- Treated with Panretin gel (retinoic acid)

These treatments only deal with the skin lesions, not with KS overall. Skin lesions may come back after treatment.

**If KS has spread** into internal organs, systemic (whole-body) drug treatment is used. If ART is not enough, the drugs doxorubicin (Doxil,) daunorubicin (DaunoXome) or paclitaxel (Taxol) may be added.

Doxil and DaunoXome are anti-cancer drugs in liposomal form. Liposomal means that tiny amounts of drug are encased in small fat bubbles (liposomes). The drugs last longer in this form and seem to move to the areas where they're needed. Some side effects are reduced with liposomal forms of drugs.

### *CAN KS BE PREVENTED?*

It is not clear how HHV-8 spreads. It might be spread through sexual activity and deep kissing. As with other opportunistic infections (OIs), a healthy immune system can control HHV-8 infection. The best way to prevent KS is by using strong ART to keep your immune system strong.

### *THE BOTTOM LINE*

KS is a disease that affects up to 20% of people with HIV who are not taking ART. It is partly caused by a herpes virus called HHV-8.

The best treatment for KS is antiretroviral therapy (ART). KS in the skin can be treated in several ways and is not a serious problem. KS in internal organs can be life threatening. Internal KS is usually treated with anti-cancer drugs.

If you notice new dark spots on your skin, have your healthcare provider look at them to see if you might have KS.

### *MORE INFORMATION*

HIV.gov: Human Herpesvirus 8 Disease

nam aidsmap: Kaposi's sarcoma and HIV

American Cancer Society: What Is Kaposi Sarcoma?

NIH National Cancer Institute: Soft Tissue Sarcoma (Kaposi Sarcoma)

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