

Also called

Anal Squamous Intraepithelial Lesion (ASIL) or Anal Dysplasia.

What is AIN?

AIN (Anal Intraepithelial Neoplasia) is characterised by the presence of abnormal cells that it is believed that it may precede anal cancer.

Where does it occur?

AIN abnormal cells may occur in the anal canal (inside the back passage), in the peri-anal skin (the skin around the back passage) or both.

What causes AIN?

AIN is thought to be caused by anal warts (Human Papilloma Virus) infection.

Who is at high risk for AIN?

- People with anal warts
- Those that engage in anal intercourse
- HIV positive people
- Patients that have undergone transplant surgery
- Women diagnosed with cervical cancer or Cervical Intraepithelial Neoplasia (CIA)

Why are they at high risk?

A combination of immunosuppression (decreased body's immune system and its ability to fight infections or disease) and the presence of anal warts significantly increases the risk of AIN and subsequently anal cancer.

Immunosuppression is caused by HIV infection itself or by the medication given to patients with a transplant in order to avoid its rejection.

What are the symptoms of AIN?

Patients with AIN may not experience any obvious symptoms or they may experience locally the following:

- Bleeding
- Irritation
- Itching
- Burning sensation

How is AIN diagnosed?

- Health care providers are aware of patients at risk (see above) and this is the first step of diagnosis of AIN. Patients are then referred to specialist centres.
- Anal cytology smears (similar to the cervical PAP smear test) may reveal underlying AIN.
- The so called “High Resolution Anoscopy” is a special technique using an anoscope for visual examination of the anal canal. A chemical (Acetic Acid) is administered in the back passage to identify AIN areas and biopsy them.
- Conventional “Proctoscopy” is an alternative technique for visual examination of the anal canal to identify intra-anal warts (warts inside the back passage) and other suspicious changes of the lining of the back passage.
- Removal of the anal warts surgically and biopsies obtained from suspicious areas in and outside the back passage in an examination under general anaesthetic is currently the most definitive diagnostic test. Specimens are sent to specialist doctors that will identify the presence of AIN under the microscope and grade it (see below).
- AIN is occasionally an incidental finding of specimens obtained from piles, skin tags and other operations.

Are there any different types of AIN?

Yes. AIN can be classified as:

- AIN Grade 1: is considered to show mild changes to abnormal cells
- AIN Grade 2: moderate changes to abnormal cells.
- AIN Grade 3: severe changes to abnormal cells.

Or

- Low grade anal dysplasia (AIN 1 – 2)
- High grade anal dysplasia (AIN 3)

AIN Grade 3 is a progressive, potentially precancerous condition that requires attention whether the person is HIV positive or not. A small proportion of AIN Grade 3 tissue changes that are not treated or removed may develop into anal cancer.

What is the treatment of AIN?

There is no definite therapy for AIN yet. This is because there is still a lot to be learned about AIN and its association with anal cancer as well as the fact that there is no effective treatment widely available. Regular follow up of patients with AIN may detect early anal cancer making the prognosis better.

Several treatments have been described in literature. These include:

- **Imiquimod cream:** This cream applied directly to affected areas works by stimulating the immune system to release a number of chemicals called cytokines, which are important in fighting viruses and destroying cancer cells. It is shown to be effective in other areas of the body, however, there are few data available on its use in AIN.
- **HPV Vaccine:** This is still being investigated for the prevention of CIN and there are no available data for its use in AIN.
- **Photodynamic Therapy (PDT):** This is a treatment that uses laser light and a substance that causes a chemical reaction that results in destruction of the abnormal cells (AIN affected areas). The success of this treatment in skin tumours has prompted its use for AIN, however there are still only a few studies available in literature.

- **Surgery:** There are different ways to treat surgical AIN Grade 3 affected areas. This would involve the removal of the affected AIN area. There is strong evidence that HIV positive patients have a high risk of recurrence and the need for many consequent operations with several complications has made this approach unpopular.

Prevention is currently the best treatment. This can be achieved by safe sex in order to prevent HIV infection, however, it has been shown that HPV can penetrate latex condoms.

I have AIN 3. What are the chances of developing anal cancer?

Under construction

Tell me more about anal cancer?

Under construction



AIN info

Anal Intraepithelial Neoplasia