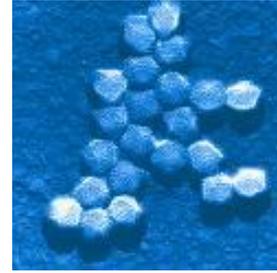


ADENOVIRUS

THE VIRUS

Adenovirus are virus with a double DNA filament, they're not capsulated, icosahedra and not to size (90-100 nm). There are 49 different serotypes of adenovirus, which can provoke infection. Adenovirus are chemical essence-, physical- and hostile conditions of the pH resistant. This characteristic allows them to survive for a long period of time outside the human body.



CLINICAL MANIFESTATIONS

Adenovirus can infect and duplicate in different types of cells and in anatomical sites, such as the breathing apparatus, the eyes, the gastrointestinal and urinary tract and the liver. According to the serogroup, adenovirus can cause epidemics such as conjunctivitis, pharyngitis, whooping cough pneumonia, hemorrhagic cystitis, gastroenteritis and hepatitis. In particular conditions, adenovirus can even cause the ARD (Acute Respiratory Disease). Adenovirus' infections in immune-depressed patients can give rise to dangerous complications with an high mortality rate.

EPIDEMIOLOGY

Even though epidemiological characteristics can vary according to the type, every adenovirus is transmitted by direct contact, oral transmission and occasionally by water. Some types can cause an asymptomatic infection, which is persistent in tonsils, adenoids and intestine of infected people. The release of the adenovirus can go on even for months or years. Serotypes 1, 2, 5 and 6 are normally acquired during the childhood and they can cause endemic infections. Serotypes 8, 19 and 37 are associated to epidemic conjunctivitis. Serotypes 40 and 41 cause gastroenteritis, especially in children. In the USA, serotypes 4 and 7 are responsible of the ARD.

For some adenovirus the clinical manifestation depends on the way of acquisition. For example, infections of adenovirus 7, which are acquired by means of inhaling, are associated to dangerous diseases of the breathing apparatus (ARD), while the oral transmission of this virus can cause a softer symptomatology.

Febrile epidemics with conjunctivitis are associated to the water transmission (for example lakes or following a lack of chlorine treatment in swimming pools).

Breathing epidemics of adenovirus are more frequent in late winter, in spring and in summer. Anyway, infections of adenovirus can occur during all the year.

TREATMENT

It doesn't exist a specific treatment for adenovirus. The treatment aims to attend symptoms and complications of the infection.

*Laboratorio
di diagnostica
molecolare*

Ulteriori informazioni o referenze bibliografiche possono essere richieste al laboratorio.

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PREVENTION	The vaccine exists just for what regards serotypes 4 and 7 and it's indicated for the prevention of the ARD in groups at risk (recruits). Nosocomial epidemics (for example conjunctivitis) can be controlled by means of control measures of the nosocomial infections. In swimming pools a correct chlorination allows to prevent conjunctivitis epidemic of adenovirus.
TEST	The amplification by means of PCR of a region, which is highly conserved by the Hexon gene (it codifies for a protein) allows to highlight every serogroups of clinically relevant adenovirus in clinical samples. ATTENTION: since adenovirus can stay inactive for a long period of time, the highlight of the virus is not necessarily correlated to the disease.
SAMPLE TAKING	Eye smear, pharynx smear, breathing samples, liquor, urine, genital tract and faeces smear.
EXECUTION	Daily
COST	According to the federal rate table of the analyses (3007.00) TP 195