|  |  |
| --- | --- |
| Logo AGES | |
| Aujeszky’s Disease | |
|  |  |
| 14.03.2025 17:58 Uhr | |

**Aujeszky’s
Disease**

**Morbus
Aujeszky;
mad
itch**

Last
change:
13.05.2024

**Profile**

Aujeszky's
disease
is
primarily
a
viral
disease
of
pigs.
However,
dogs,
cats
and
virtually
all
other
domestic
mammals
can
also
contract
it.
For
all
susceptible
species
except
pigs,
the
disease
is
fatal.
The
symptoms
are
similar
to
those
of
rabies,
which
is
why
the
disease
is
also
called
pseudo-rabies.
According
to
current
knowledge,
humans
are
not
susceptible
to
the
infection.

**Occurrence**

Aujeszky's
disease
is
widespread
worldwide.
In
Austria,
the
disease
does
not
occur
in
the
domestic
pig
herd.
However,
as
in
other
European
countries,
Aujeszky's
disease
is
present
in
the
wild
boar
population.

**Host
animals**

Pigs
(domestic
and
wild)
are
the
natural
reservoir.
Dogs,
cats,
other
carnivores
(minks,
ferrets)
and
ruminants
(cattle,
sheep,
goats),
as
well
as
equids,
on
the
other
hand,
are
false
hosts
that
hardly
play
a
role
in
the
spread
of
the
disease.
The
disease
is
fatal
in
all
abortive
hosts,
only
pigs
survive
the
disease
-
also
depending
on
their
age.

**Infection
route**

Transmission
occurs
from
pig
to
pig
via
the
respiratory
or
digestive
tract,
in
wild
boar
also
via
mating.
Other
animals
become
infected
through
direct
contact
with
pigs.
For
carnivores,
the
main
source
of
infection
is
ingestion
of
meat
and
offal
of
infected
(wild)
pigs.
In
the
current
epidemiological
situation
in
Austria,
hunting
dogs
are
particularly
at
risk.

**Incubation
time**

2
to
6
days

**Symptoms**

In
pigs,
symptoms
range
from
subclinical
disease
(often
in
feral
pigs)
to
abortions,
respiratory
disease,
neurological
symptoms
and
death
in
very
young
piglets.
False
hosts
always
react
to
the
infection
with
a
fatal
disease
of
the
central
nervous
system,
often
accompanied
by
restlessness,
itching,
self-mutilation
and
seizures.

**Therapy**

There
is
no
therapy
against
the
virus.
The
disease
leads
to
death
in
all
susceptible
animals
except
pigs.

**Prevention**

In
Austria,
the
disease
does
not
occur
in
domestic
pigs.
Aujeszky's
disease
is
notifiable
in
domestic
pig
herds.
Vaccination
is
prohibited.
In
order
to
maintain
this
status,
serological
surveillance
programmes
are
carried
out
every
year.
In
addition,
abortions
of
domestic
pigs
sent
to
AGES
are
also
examined
for
Aujeszky's
disease.
The
examination
of
wild
boar
is
carried
out
exclusively
by
private
order
or
within
the
framework
of
research
projects.

**Situation
in
Austria**

Due
to
the
permanent
surveillance
program,
Austria
has
been
officially
recognized
free
of
Aujeszky's
disease
in
domestic
pigs
since
1997.
In
2022,
a
total
of
15,157
pigs
were
serologically
tested
for
antibodies
against
Aujeszky's
disease
virus.
The
majority
of
these
samples
(13,690)
came
from
the
official
sampling
program.
In
addition,
64
abortions
were
tested
for
Aujeszky's
disease
virus.
In
none
of
these
cases
was
either
the
virus
itself
or
antibodies
to
Aujeszky's
disease
virus
detected.

|  |  |  |
| --- | --- | --- |
| **Year** | **number of tests** | **positive** |
| **2010** | 12.427 | 0 |
| **2011** | 11.434 | 0 |
| **2012** | 11.417 | 0 |
| **2013** | 12.801 | 0 |
| **2014** | 12.265 | 0 |
| **2015** | 12.543 | 0 |
| **2016** | 13.284 | 0 |
| **2017** | 22.559 | 0 |
| **2018** | 20.154 | 0 |
| **2019** | 17.381 | 0 |
| **2020** | 18.749 | 0 |
| **2021** | 15.923 | 0 |
| **2022** | 15.157 | 0 |

Now
that
the
Aujeszky's
disease
virus
is
also
present
in
the
wild
boar
population
in
Austria,
fatal
diseases
of
dogs
occur
sporadically.
This
disease
almost
exclusively
affects
hunting
dogs,
which
become
infected
with
the
virus
in
the
course
of
wild
boar
hunts.

**Untersuchungen
bei
Wildschweinen**

|  |  |  |
| --- | --- | --- |
| **Jahr** | **number of tests** | **positive** |
| **2017** | 74 | 20 |
| **2018** | 51 | 10 |
| **2019** | 55 | 13 |
| **2020** | 46 | 17 |
| **2021** | 35 | 7 |
| **2022** | 27 | 10 |

**An
Aujeszkyscher
Krankheit
verstorbene
Hunde**

|  |  |
| --- | --- |
| **Year** | **Dogs deceased from Aujeszky's disease (virus detection)** |
| **2010** | 4 |
| **2011** | 0 |
| **2012** | 0 |
| **2013** | 1 |
| **2014** | 1 |
| **2015** | 0 |
| **2016** | 0 |
| **2017** | 1 |
| **2018** | 0 |
| **2019** | 0 |
| **2020** | 0 |
| **2021** | 2 |
| **2022** | 1 |

**Specialist
information**

The
causative
agent
of
Aujeszky's
disease
is
suid
herpesvirus
1
(SuHV-1),
syn.
pseudorabies
virus
from
the
subfamily
Alphaherpesvirinae,
genus
Varicellovirus.
The
virus
strains
vary
in
their
virulence,
but
have
a
uniform
serological
behaviour.
Weakly
virulent
virus
strains
are
strictly
neurotropic
and,
in
contrast
to
the
strongly
virulent
strains,
cause
no
further
organ
damage.
Strongly
virulent
strains
are
detectable
in
the
lungs
(infestation
of
alveolar
macrophages)
and
in
the
genital
tract,
as
well
as
in
the
semen
of
infected
boars.

The
virus
multiplies
primarily
in
the
epithelia
of
the
nasal
and
pharyngeal
mucosa
and
the
tonsils
or
in
the
genital
mucosa
and
subsequently
spreads
in
the
nervous
system.
From
the
primary
site,
the
virus
migrates
into
the
CNS
via
afferent
nerve
pathways.
Nervous
symptoms
develop
when
damage
to
the
neurones
has
occurred.
If
the
primary
infection
is
survived
(only
in
pigs),
the
animals
remain
latently
infected.
At
this
stage
they
are
not
infectious,
but
stressors
(transport,
mass
gatherings,
mating
season,
birth)
can
lead
to
reactivation
of
the
virus
and
consequently
to
further
spread.

The
virus
can
survive
in
the
environment
at
25
°C
for
up
to
40
days.
The
virus
is
inactivated
by
heating
above
55
°C
or
by
chlorine-,
ammonium-
or
formalin-based
disinfectants.
However,
alcohol
and
phenols
are
ineffective.

**Transmission**

In
domestic
pig
herds,
the
pathogen
is
usually
transmitted
to
healthy
pigs
through
direct
contact
with
infected
pigs.
In
heavily
infected
herds,
transmission
can
also
occur
during
animal
care
via
hand
contact,
feed,
inanimate
objects
and/or
even
via
air
movement
("aerogenic")
in
close
neighbourhoods.
The
infection
spreads
rapidly
in
areas
with
dense
pig
farming.

Other
sources
of
infection
are
meat,
organs,
milk
and
semen.
Pregnant
sows
spread
the
virus
via
aborted
foetuses,
the
placenta
and
vaginal
discharge.

Not
only
susceptible
but
also
vaccinated
pigs
can
become
carriers
of
the
virus.
Vaccination
is
therefore
prohibited
in
Austria.
Once
the
disease
has
been
overcome,
the
virus
retreats
into
the
trigeminal
ganglia
and
possibly
the
tonsils,
or
into
the
sacral
ganglia
(especially
in
wild
boar),
depending
on
the
entry
point
(latent
infection).
Stress
factors
such
as
transport
etc.
can
lead
to
reactivation
and
excretion
of
the
virus.
The
transmission
of
the
virus
is
not
bound
to
a
season.
For
carnivores,
the
most
important
source
of
infection
is
the
ingestion
of
meat
and
offal
from
infected
(wild)
pigs.

**Symptoms**

**Piglets**:
Initially
fever,
vomiting,
movement
disorders,
circular
movements,
swallowing
paralysis,
heavy
salivation;
then
central
nervous
disorders:
Muscle
tremors,
cramps,
paddling
movement
of
the
limbs
and
partial
paralysis;
in
piglets
up
to
2
weeks
old,
mortality
is
100%;
in
3-4
week
old
piglets
still
50%.
Young
animals
aged
1-3
months
show
a
poor
appetite,
rhinitis
(nasal
discharge),
slight
fever
and
shortness
of
breath.
Death
usually
only
occurs
in
the
case
of
central
nervous
disorders.

**Runner/fattening
pigs**:
Diseases
of
the
respiratory
tract,
high
fever,
depression,
poor
weight
gain,
rarely
central
nervous
disorders.
The
incubation
period
is
3-5
days
with
a
disease
rate
of
100
%
and
a
mortality
rate
of
5
%.

**Sows/boars**:
Fertility
problems,
including
abortions

**Wild
boar**:
Usually
do
not
show
as
pronounced
symptoms
as
domestic
pigs
-
often
without
signs
of
disease.

**Dogs/cats/cattle/small
ruminants**:
Inflammation
of
the
brain
and
spinal
cord
with
central
nervous
symptoms,
salivation
and
severe
itching.
The
disease
is
always
fatal
in
these
animals,
usually
after
1-3
days.

In
contrast
to
rabies,
infected
false
hosts
are
thirsty,
carnivores
have
no
symptoms
of
aggression
and
ruminants
have
no
water
shyness
and
pronounced
symptoms
of
the
respiratory
tract,
e.g.
increased
panting
or
shortness
of
breath.

The
use
of
protective
vaccination
is
prohibited
in
Austria.
The
live
vaccines
developed
for
pigs
are
pathogenic
for
cattle,
dogs
and
cats;
inactivated
vaccines
are
not
effective
enough.
Due
to
the
occurrence
of
Aujeszky's
disease
in
wild
boar,
it
is
recommended
that
you
review
the
relevant
biosecurity
measures
on
your
own
farm
and
ensure
that
contact
between
domestic
and
wild
boar
is
prevented
(e.g.
by
double
fencing
to
keep
wild
boar
out).

**Symptoms
in
dogs
and
cats**

The
diagnosis
is
based
on
the
clinical
symptoms
and
the
rapid
progressive
course.
Conspicuous
symptoms
are
reluctance
to
eat,
abnormal
sensitivity,
severe
itching
followed
by
self-mutilation,
extreme
sensitivity
to
touch,
numbness,
salivation,
reddened
conjunctiva
and
oral
mucosa,
increased
respiratory
rate
(60/min.)
and
frequent
pulse
(160/min.)
In
contrast
to
rabies,
the
affected
animals
show
thirst,
but
not
aggression.
The
disease
progresses
so
rapidly
that
no
antibodies
have
been
produced
by
the
time
of
death.
A
reliable
diagnosis
is
only
made
after
death
by
means
of
appropriate
laboratory
tests.

**Information
for
hunters**

Blood
used
for
training
hunting
dogs
can
be
tested
for
the
absence
of
viruses
(PCR
test
required).

Direct
contact
between
wild
boar
and
hunting
dogs
should
be
limited
as
much
as
possible
during
hunting
operations.
In
any
case,
"socialising"
with
wild
boar
organs,
intensive
contact
with
wounds
made
by
wild
boar,
the
cutting
of
wild
boar
by
the
dog,
direct
contact
with
openings
or
wild
boar
tracks
should
be
avoided.
If
the
protective
measures
are
observed,
the
infection
of
hunting
dogs
can
be
prevented
with
a
high
degree
of
certainty.

**Diagnostic**

**Laboratory
diagnostics
in
(wild)
pigs**

* Examination
  for
  antibodies
  from
  blood
  (serum)
  by
  ELISA
  or
  serum
  neutralisation
  test:
  The
  result
  allows
  a
  statement
  as
  to
  whether
  the
  animal
  has
  had
  contact
  with
  the
  virus;
  however,
  the
  result
  of
  the
  test
  does
  not
  indicate
  when,
  where
  and
  to
  what
  extent
  the
  virus
  is
  acutely
  present
  or
  whether
  it
  is
  excreted.
  The
  detection
  of
  antibodies
  also
  does
  not
  imply
  immunity.
  In
  international
  trade,
  the
  differentiation
  of
  vaccinated
  animals
  may
  be
  important,
  which
  is
  possible
  with
  the
  help
  of
  special
  ELISA
  tests
  due
  to
  the
  use
  of
  so-called
  marker
  vaccines.
* Examination
  by
  PCR
  from
  organs
  (tonsils,
  brain,
  spinal
  cord,
  lungs,
  spleen,
  kidney,
  liver,
  lymph
  nodes),
  including
  aborted
  material,
  as
  well
  as
  from
  naso-
  and
  oropharyngeal
  swabs:
  PCR
  directly
  detects
  the
  virus
  or
  virus
  components.
  Even
  latent
  infection
  can
  be
  detected
  by
  PCR
  if
  the
  corresponding
  target
  tissues
  (trigeminal
  or
  sacral
  ganglia)
  are
  sampled.
* Virus
  isolation:
  in
  contrast
  to
  PCR,
  this
  allows
  a
  statement
  to
  be
  made
  as
  to
  whether
  the
  virus
  is
  capable
  of
  infection,
  as
  well
  as
  further
  typing.
  Virus
  isolation
  is
  rarely
  used
  in
  routine
  diagnostics.

**Laboratory
diagnostics
in
case
of
dogs**

* As
  no
  antibodies
  are
  formed
  due
  to
  the
  rapid
  course
  of
  the
  disease,
  only
  direct
  pathogen
  detection
  by
  PCR
  (if
  necessary
  also
  by
  virus
  isolation)
  is
  useful.
  In
  this
  case,
  CNS
  (brain
  and/or
  spinal
  cord,
  in
  the
  latter
  case
  especially
  the
  region
  of
  the
  spinal
  cord
  which
  was
  responsible
  for
  the
  supply
  of
  the
  skin
  sites
  where
  the
  itching
  was
  observed)
  should
  be
  brought
  for
  examination.

In
all
cases,
the
shipment
of
samples
to
the
laboratory
should
ideally
be
carried
out
with
the
addition
of
refrigerants
and
consideration
of
the
appropriate
transport
regulations
(UN3373)
by
an
authorized
logistics
company.

**Contact**

**National
reference
laboratory
for
Aujeszky's
disease**

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