Activities of the Austrian NRL for Parasites in 2018

W. Glawischnig, K. Schöpf
Institute for Veterinary Disease Control Innsbruck, Austrian Agency for Health and Food Safety (AGES)
email: walter.glawischnig@ages.at

Annually PT's for *Trichinella*

The annually preformed Proficinecy Test for *Trichinella* diagnosis was conducted by the national NRL in October 2018. 52 laboratories participated. In comparison to the PT of the last year sensitivity decreased and specificity increased (Tab. 1).

Year	Sensitivity			Specificity		
	Value (%)	95-%-KI		Value (%)	95-%-KI	
2008	55.88	48	64	88.23	79	94
2009	72.29	66	78	90.36	81	96
2010	89.02	84	93	86.59	77	94
2011	80.51	74	86	87.34	77	94
2012	92.31	87	96	87.23	81	92
2013	86.52	80	92	90.14	81	96
2014	90.91	85	95	86.36	76	94
2015	92.54	87	96	**98.51**	92	100
2016	92.74	87	97	93.50	88	97
2017	**94.12**	84	99	88.24	80	94
2018	86.14	78	92	96.08	87	100

Tab. 1: Sensitivity and specificity of National PT in the time period 2008-2018. The highest sensitivity with 94.1% was reported in 2017 and the best specificity with 98.5% in the year 2015.

Monitoring for *Trichinella* in wildlife and domestic animals in Austria

In 2018 no suspected case of *Trichinella* spp. infection in wildlife and domestic animals was reported to the NRL through national laboratories. No samples where sent for conformation.

Alveolar Echinococcosis (AE) in humans in Austria

In the last decades the average number of AE in humans ranged between 2-3 cases per year. Since the year 2011 an increase was observed. Although a drop in human cases was reported in 2018. Most of the Austrian cases originate from the federal provinces of Vorarlberg and Tyrol (Tab. 2).

FEDERAL PROVINCES	2011	2012	2013	2014	2015	2016	2017	2018
Lower Austria	1	1	0	2	2	1	4	1
Burgenland	0	0	0	0	1	1	0	0
Upper Austria	1	0	0	1	1	0	1	3
Salzburg	0	0	1	0	1	0	0	0
Styria	0	1	0	2	1	0	1	1
Tyrol	3	4	4	5	7	1	1	6
Vorarlberg	7	3	2	1	1	1	1	3
Vienna	1	0	1	0	0	0	1	2
Carinthia	0	0	0	0	0	0	0	0
TOTAL	**13**	**9**	**8**	**11**	**14**	**4**	**9**	**16**

Tab. 2: Number of AE-cases in various provinces of Austria between the year 2011-2018 (Information provided by Prof. H. Auer, Medicine University Vienna).

Public relations activities

Public an scientific relations activities concentrated on dissemination of results regarding the surveillance program on *Echinococcus multilocularis* in foxes in the province Salzburg. A **pamphlet** was issued and distributed, explaning the life cycle of *Echinococcus multilocularis* and the risk of human infection. The NRL serves as a major source of information relating to scientific outputs.

Echinococcus multilocularis in a Japanese moneky (*Macaca fuscata*)

In this year an interesting case of AE was diagnosed in a female Japanese macaque (*Macaca fuscata*) originating from a small zoo situated in the Tyrolean mountain area. The 21 year old female monkey showed 2 years before exitus severe clinincal signs such as slowley progressing enlargement of the belly size. Pathological findings were focused mainly on the liver which was severly enlarged and showed two tumorlike tissue growth with coalescing hydatid cysts of 1 cm in diameter. Both tumorlike enlargements where bridged by physiological liver tissue. On cutting the organ tissue showed to be homogenous, yellowish and fibroid. Histology revealed granulomatous hepatitis with presence of cysts including protoscolices. The etiology was confirmed by histopathology and PCR testing.

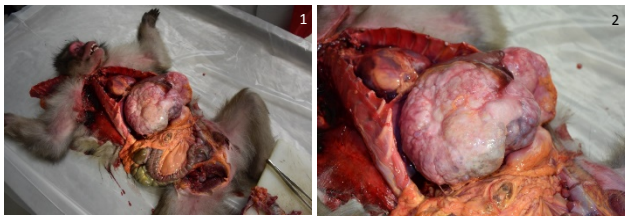

Fig. 1: Expansive lesion in the opened abdominal cavity of the female Japanese macaque.

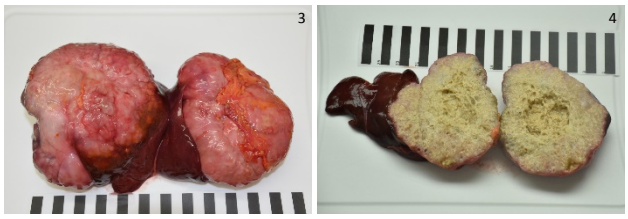

Fig. 2: Liver with two nodular masses (3) displaying numerous Echinococcus-cysts between a fibrous stroma with central cavernous-necrotic tissue on the cut surface (4).

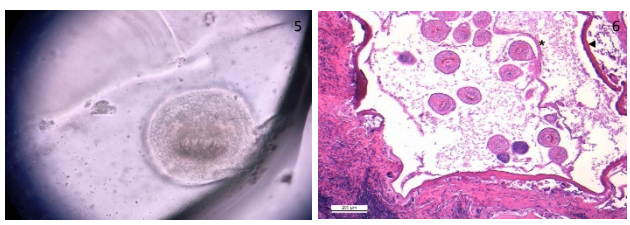

Fig. 3: Protoscolex with central hooks. Direct smear from the cutting surface of the nodular mass (5) and granulomatous hepatitis with numerous zysts containing myriads of protoscolices and surrounding by a germinative and a laminar layer. H & E. Bar: 200 µm (6).

Contact person: **Dr. Walter Glawischnig** I Devision Pathology/Institute for Veterinary Disease Control
Technikerstrasse 70, 6020 Innsbruck, Austria I email: walter.glawischnig@ages.at
AGES – Austrian Agency for Health and Food Safety

www.ages.at

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