TANAPOXVIRUS

Animal Group(s) Affected	Transmission	Clinical Signs	Severity	Treatment	Prevention and Control	Zoonotic
Primates, including humans	African species are usually source for Asian species. Humans infected via skin wounds.	Erythematous 2-3cm raised, thickened skin lesions with umbilicated centers that developing within days to weeks of contact. Lesions often on face.	Mild to moderate severity. Increased severity with immuno-compro-mise con-ditions	Supportive as lesions usually have spontaneous regression.	Avoid cohabitation of African and Asian non-human primate species. Disinfection of fomites and vector control.	Yes

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Susceptible animal groups: Primates, human and non-human

Causative organism: Tanapoxvirus (genus *Yatapoxviridae*)

Zoonotic potential: Yes

Distribution: Sub-Saharan Africa (originated in Tana River Valley of Kenya). Cases have been reported from travelers in Tanzania and during WHO smallpox eradication in Central Africa.

Incubation period: Unknown, but clinical signs can appear within days of inoculation

Clinical signs: In non-human primates, vesicles may be numerous, are often around the upper body and head region, and appear within 2-3 weeks of inoculation. In humans, often a single – occasional clusters of 10 lesions - erythematous, dermatologic vesicle is noted often on the extremities or lower body regions, and the patient may have prostration, general body ache or headache, and prodromal (2-4 days) pyrexia prior to lesion onset. Lesions may reach maxmal size by two weeks then typically regress spontaneously within 4-6 weeks. Pruritus may accompany lesions. This disease is clinically virtually indistinguishable from Yaba-like disease virus, which is in the same genus *Yatapoxviridae*, but is different from Yaba Monkey tumor virus, also in the same genus. In humans, risk for secondary bacterial infections in humans.

Post mortem, gross, or histologic findings: Grossly apparently epidermal lesions that when biopsied, show marked thickening and ballooning degeneration of prickle cell layer and eosinophilic viral inclusion bodies characteristic of poxvirues on histopathology and enveloped forms seen on EM.

Diagnosis: History of direct or indirect contact with non-human primates (or transport from or travel to Africa), complement fixation, serum neutralization and precipitation tests, ELISA, and PCR.

Material required for laboratory analysis: Serum, tissue for histopathology or EM

Relevant diagnostic laboratories: This is an uncommon disease, but has been noted in North American collections. Most laboratories that process non-human primate samples can either run the PCR for this virus or can direct personnel accordingly to an appropriate laboratory facility for testing of samples. Histopathology or EM can be done at most laboratories that normally process tissues and have the capabilities for these procedures.

Treatment: Supportive – spontaneous resolution usually in ~6 weeks in humans.

Prevention and control: Avoid contact with primates that have had potential exposure. Proper quarantine

and testing of animals with history of exposure or recent shipment from Africa. Humans should keep all skin wounds cleaned, bandaged and covered when working with non-human primates. Thorough disinfection of all potential fomites in housing areas for primates in collections and protection of animal care staff through education and proper clothing and protective wear (gloves, long sleeves). Vector control. Previous exposure/immune reaction to Yaba-like disease virus may provide immunity for tanapox, but not visa-versa.

Suggested disinfectant for housing facilities: Detergents, hypochlorite, alkalis, Virkon® and glutaraldehyde.

Notification: Public health officials may need to be notified if zoonotic transmission occurs, depending on the state.

Measures required under the Animal Disease Surveillance Plan: Currently none

Measures required for introducing animals to infected animal: Do not introduce animals with clinical disease (active or resolving pustules/lesions) to non-infected or new animals. Allow resolution of all lesions completely prior to introduction and follow proper quarantine measures for individual facility.

Conditions for restoring disease-free status after an outbreak: Condition typically spontaneously resolves within weeks with supportive care. Treatment of any secondary infections should assist in wound healing. Immunosuppressed animals may be more susceptible to infection and secondary disease/complications. Proper disinfection of animal area and fomites should be done following an outbreak or care of an infected animal prior to housing new animals in the area.

Experts who may be consulted:

Centers for Disease Control and Prevention
Poxvirus and Rabies Branch, Division of High-Consequence Pathogens and Pathology
1600 Clifton Rd
Atlanta, GA 30333
800-CDC-INFO

References:

1. http://www.phsource.us/PH/ZD/VD/Tanapox.htm. Accessed 18 July 2013.
2. Animal Disease Factsheets, The Center for Food Security & Public Health Iowa State University, Ames, IA, USA. http://www.ivis.org/advances/Disease_Factsheets/contagious_ecthyma.pdf. Accessed 18 July 2013.
3. Brunetti, C.R., H. Amano, Y. Ueda, J. Qin, T. Miyamura, T. Suzuki, X. Li, J.W. Barrett, and G. McFadden. 2003. Complete genomic sequence and comparative analysis of the tumorigenic poxvirus Yaba monkey tumor virus. J. Virol. 77: 13335-13347.
4. Dhar, A.D., A.E. Werchniak, Y. Li, J.B. Brennick, C.S. Goldsmith, R. Kline, I. Damon, and S.N. Klaus. 2004. Tanapox infection in a college student. N. Engl. J. Med. 350:361-366.
5. Downie, A.W., and C. Espana. 1973. A comparative study of Tanapox and Yaba viruses. J. Gegn. Virol. 19: 37-49.
6. Downie, A.W., and C. Espana. 1972. Comparison of Tanapox virus and Yaba-like viruses causing epidemic disease in monkeys. J Hyg. (Cambridge) 70: 23-32.
7. Jezek, Z., I. Arita, M. Szceniowski, K.M. Paluku, K. Ruit, and J.H. Nakano. 1985. Human Tanapox in Zaire: clinical and epidemiological observations on cases confirmed by laboratory studies. Bull. World Health Org. 63: 1027-1035.
8. Joslin, J. 2003. Other primates excluding great apes. In: Fowler, M.E., and R.E. Miller (eds.), Zoo and Wild Animal Medicine, 5th ed. Elsevier, St. Louis, Mo. Pp.346-381.
9. Knight, J.C., F.J. Novembre, D.R. Brown, C.S. Goldsmith, and J.J. Esposito. 1989. Studies on Tanapox virus. Virol. 172: 116-124.

10. Schielke, J.E., J. Kalishman, D. Liggitt, and H. Bielefeldt-Ohmann. 2002. What is your diagnosis: multifocal subcutaneous tumors in a young male baboon. Contemp. Top Lab. Anim. Sci. 41: 27-29.
11. Stich, A., H. Meyer, B. Köhler, and K. Fleischer. 2002. Tanapox: first report in a European traveler and identification by PCR. Trans. R. Soc. Trop. Med. Hyg. 96:178-179.
12. Zimmermann, P., I. Thordsen, D. Frangoulidis, and H. Meyer. 2005. Real-time PCR assay for the detection of Tanapox virus and Yaba-like disease virus. J. Virol. Meth. 130: 149-153.