

Outbreak of Multi-Species Prion Protein Disease – Yridia II

Aristide Strobe, MD, PhD

Abstract. Prion proteins (PrP) are known bio-accumulators in neural tissue. Generally associated with various subacute spongiform encephalitis (SSE), which is caused by normal PrP misfolding into an isoform (PrP^c), accompanied with spongiosis and astrogliosis, PrP^c has been found in various bodies of Yridians returning to Yridia. A joint investigation by all public and military health services branches has been launched by order of the Office of the Consul. Preliminary findings and the case for prion pathogen is outlined herein.

Introduction

In the recent return from Korriban, effects and bodies of military personnel have been transferred and relinquished to families as quickly as possible. Two to three weeks after the first bodies had been given over for burial, family members of deceased servicemen and women began to complain of debilitating pains and symptoms. Ultimately leading to death. At the same time, corpsmen working with the dead and mortally wounded also began to complain of near crippling symptoms that would also ultimately lead to death. Initial military health response was to treat for a broad spectrum of chemical and biological agents starting with broad spectrum antibiotics and atropine. Use of further dessicating agents was inadvisable due to the unknown nature of the root problem, so as to avoid further complications from the toxicity of compounds such as 2-methoxyethanol. With a fatality rate upwards of 95% and an unknown transmission rate, the Office of Health Services (OHS) has had little choice but to instruct civilian hospitals and clinics to discharge patients suffering from unknown disease or offer palliative care only.

Investigation and Results

Initial investigation into cause of disease and death has been hampered by local unrest. Subsequently, all initial investigation has begun using preserved samples and bodies still under the possession of Clan Tarentum (TAR). Primary samples of preserved tissues and fluids involved culturing and replication of as much microbial flora as possible. Culturing revealed little useful information as the majority of flora encountered were typical for battlefield combatants, species taken from, and decomposition. All known bacteria and fungi cultured and found had no observed mutations based upon RT-PCR assay.

While microbial investigation initially resulted in little or inconclusive results, autopsy of bodies still under TAR custody yielded more promising results. In all 10 of initial cadavers investigated, the brains were noticeably shrunken and spongelike. Especially for how recently subjects had been declared deceased. Microscopic investigation showed enhanced spongification of brain tissue (Fig.1). Brain tissue was immediately snap frozen in liquid nitrogen (LN2) to -80°C . Approximately 100mg of each of the 10 brains, frontal left part of left hemisphere, was used for RNA extraction. And additional 100mg of each of the 10 brains, frontal right part of right hemisphere, was preserved in protein rich fluid for introduction to test animals.

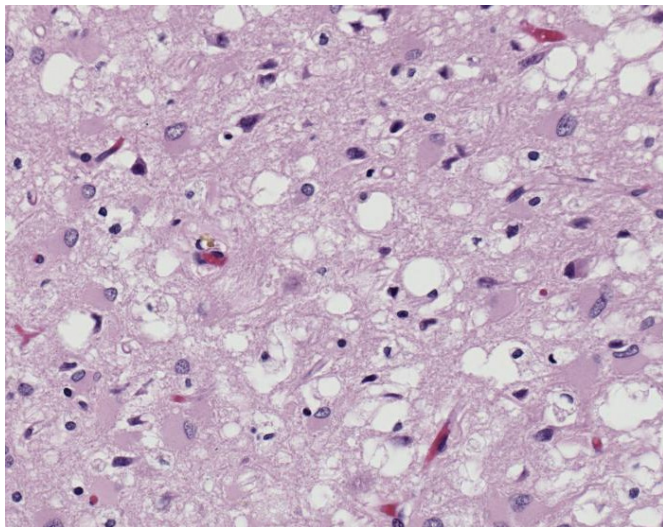


Figure 1 sponge-like lesions showing in Cadaver A^[1]

[1] - http://upload.wikimedia.org/wikipedia/commons/4/41/Variant_Creutzfeldt-Jakob_disease_%28vCJD%29%2C_H%26E.jpg

RNA was diluted in diethylpyrocarbonate (DEPC)-treated water to obtain 500 µg/mL solution (confirmed three times by spectrophotometer), to decrease completely intensity of bands for TNF-α of control brains. Primers were programmed for data available from Galactic Gene-Bank as well as index of weaponized genes known to TAR. PCR was run under the same conditions with AmpliTAQ, AMV Reverse Transcriptase, Steiner Protocol and Sirus-Nsin. No known genetic match in either database was shown.

The brain samples were then injected into 5 sets of 10 laboratory mice. See Table1.

Table. Exposure of cultured brain samples on transgenic mice							
Patient Group	Onset of illness (days)	CT Findings	Fatal	Specimen PCR	+/-	Specimen Culture	+/-
A	3	SL	Yes	Brain	+	Brain	+
B	2.5	SL	Yes	Brain	+	Brain	+
C	2.5	SL	Yes	Brain	+	Brain	+
D	3	SL	Yes	Brain	+	Brain	+
E	3	SL	Yes	Brain	+	Brain	+

Abbreviations SL=sponge-like lesions; + = positive result; - = negative result; NT = not tested

Discussion and Public Health Response

Pathogen in question, is almost assuredly a PrP or PrP-like in nature. Subsequently, recommendation is to avoid completely any and all contact with the cerebrospinal fluid and any central nervous system tissue of the deceased and dying. PrP are notoriously difficult to treat. As they are rogue proteins that can self-propagate by contact with other proteins, there are no known antibiotic treatments. PrP are resistant to all known protein kinases, do not denature under heat and do not need to take over cellular metabolism like viruses. This ministry recommends chemical destruction of all deceased using strong solvents – KOH, DMSO, DCM, THF or MeCN.