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Ref: case review – Ken Blow

Dear Ms. Bjorklund,

This is the summary of the case Kenn Blow

Summary of the clinical course

- 10-16-07 Patient received flu vaccine
- 11-18-07 Patient and his wife both had symptoms suggestive of viral syndrome with fever, stiff neck, gastroenteritis which lasted for 2 days.
Past hx includes use of cialis, and Bell's palsy following swine flu vaccination.
- 11-29-07 Patient presented to eye clinic at UM with 3 day history of headache and decreased vision.
This led to rapid loss of vision, initially in right eye and then the left.
Ophthalmological examination showed marked vision loss and disc edema.
Diagnosis of optic neuritis was made and patient was treated with IV solumedrol for 3 days followed by oral taper. The vision stabilized but did not improve.
- 12-11-07. There was worsening of vision and downbeat nystagmus and efferent papillary defect were noted.
- 12-17-07 Patient reported numbness in the right leg. 12-18-07 Patient had leg weakness, clonus and positive Babinski and positive Romberg.
- 12-23-07 Treatment with plasma exchange was initiated.
- 12-26-07 Patient developed increasing leg weakness and ataxia
- 1-2-08 Patient developed left arm weakness.
- 1-4-08 Biopsy from the brain lesion showed demyelination.
- 1-8-07 Progressive weakness in upper and lower extremities. Patient developed urinary retention.
- 1-10-07 Increasing agitation, delirium and pain. Dense left hemiplegia.
- 1-14-07 Admitted to ICU for breathing difficulty and decreased responsiveness. Intubated for respiratory failure.
Started on Mitoxantrone.
- 1-17-07 Patient placed on comfort care.
- 1-19-07 Patient transferred to District One Hospital.



- 1-21-07 Patient expired.
Autopsy showed acute aggressive multifocal demyelinating disease in the brain.

Summary of laboratory tests

Negative or normal: ANA, ACE, NMO antibodies, ESR, CRP, RPR, toxo, SSA/B, ANCA, paraneoplastic antibodies, chest CT,

- MRI
 - 11-30-07 enhancement of bilateral optic nerves.
 - 12-11-07 Optic nerve findings and 2 foci of increase signal in the brain
 - 12-18-07 lesion in the precentral gurus
 - 1-13-08 multiple new lesions, some enhancing, including thamlamic and brain stem
- CSF Prot 54, W 2. OCB neg, IgG index nl, IgG synth rate 0, MBP 148 (nl <4.1)
- EMG – mild axonal and demyelinating neuropathy
- Brain biopsy 1-4-08 – Demyelinating lesion
- Autopsy showed acute aggressive multifocal demyelinating disease in the brain

Impression:

It is my opinion that Mr. Kenn Blow developed acute disseminated encephalomyelitis (ADEM) which began with bilateral optic neuritis and rapidly progressed to involve multiple areas of the brain over 6 weeks and was ultimately fatal. He had received flu vaccination 5 weeks before the onset of the neurological symptoms. He, and his wife, also developed symptoms consistent with a viral GI syndrome 8 days prior to onset of ADEM.

ADEM is an inflammatory autoimmune disorder with aggressive attack on the nervous system by the immune system. It is characterized by multi-focal demyelination in the central nervous system, including brain, optic nerves and spinal cord (1-7).

ADEM It develops as an autoimmune response to myelin basic protein, sometimes triggered by infection or immunization. Viral infections and vaccination both have been associated with development of ADEM, including flu vaccination (1-7).

In the case of Mr. Blow there are two risk factors, both of which independently can be associated with development of ADEM. In regards to the previous influenza vaccination the development of ADEM within 5 weeks is certainly in the observed time frame (see ref 6, table 1 and results for example). Similarly the presumed viral gastroenteritis can also be associated with ADEM.

In the absence of the viral infection, the causality assessment term I would use between the vaccination and the ADEM as “Very likely-certain” to “likely probable”, using the criteria based on WHO definitions (ref 8, 9). However given the occurrence to the second risk factor, which is also capable of producing ADEM, the risk of the vaccine leading to ADEM would be described as “Possible” (ref 9).



Furthermore, it is also possible that the two risk factors had an interaction that produced such fulminant ADEM, which was ultimately fatal. It is possible that the first event, namely immunization, primed the immune system to responding more aggressively and briskly to the second stimulus, thus producing a more aggressive illness.

Summary statement:

It is my opinion that Mr. Kenn Blow developed rapidly progressive and fatal acute disseminated encephalomyelitis (ADEM). It is my opinion that the previous vaccination which the patient received was possibly responsible for the development of this complication, possibly made worse by the presumed viral infection.

Praful Kelkar, MD, FAANEM



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