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## Journal Pre-proof

Editorial Comment regarding: COVID-19- associated Guillain-Barrè Syndrome and Urinary Dysfunction: A case report

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Editorial Comment regarding: COVID-19- associated Guillain-Barrè  
Syndrome and Urinary Dysfunction: a case report.

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## Editorial Comment regarding: COVID-19- associated Guillain-Barré Syndrome and Urinary Dysfunction: a case report.

The article 'COVID-19- associated Guillain-Barré Syndrome and Urinary Dysfunction: a case report'<sup>1</sup> describes a patient with a clinical history of a viral infection, followed by a neurological syndrome, followed by a lower urinary tract dysfunction LUTD. The report discusses and concludes, paraphrased, that the LUTD is caused by the neurological syndrome and that the neurological syndrome is caused by the viral infection.

The association of COVID-19 vaccination or disease with Guillain-Barré syndrome (GBS) is frequently reported. Without being an expert in this I observe that GBS is however far more frequently reported to occur after Covid-vaccination than during Covid-disease. The most likely cause of the association of Covid and GBS is nevertheless that the immune response causes the (poly)neuropathy, which is the neuropathology type within the GBS. Although in cases of Covid disease also e.g. the antiviral (medication) may be relevant as a cause of neuropathy.<sup>2</sup> GBS can become associated with signs and signs of LUTD<sup>3</sup>, as is also reported, although many patients are catheterized anyway in the critical period of the (a) disease, and signs and symptoms of dysfunction, if occurring may become labelled as neurogenic LUTD without further confirmation of this. A case report in medical literature should, as bedside teaching or, alike a patient -presentation during a grand clinical round, be complete and thoroughly structured.

I have a few comments on this: Neither the neurological description nor the urological descriptions are complete. Essential parts of a complete neurological exam and history are missing; sensation, exteroceptive and proprioceptive and, specifically e.g., (lower body half) vibratory-sensation are not reported, neither cranial nerves (e.g., bulbar) function. Furthermore, and more important for this journal and more relevant for urologists and or urogynecologists, clinical neuro-urological examination is absent. Saddle region muscle tone (weak/absent??) and or ability to contract and relax pelvic floor muscles are not reported. Nonetheless mentioning of 'de novo obstipation', complete information about rectal function/defecation/fecal incontinence and sensations of lower bowel-rectal filling and bladder filling –proprioceptive- is missing and clinical (sacral) reflexes testing is missing. Rectal filling sensation and especially bladder filling sensation depends on muscle stretch sensation which travels to the brain via the dorsal column, identical to lower body half vibratory sensation and a combination of abnormalities in these sensation -functions is of relevance for the neurological diagnosis as well as for the neuro-urological diagnosis. The further clinical situation is described in a confusing manner was there abdominal pain or muscular defence or a painfully filled bladder or urgency or sensation of fullness? Confusion seems to exist between (misunderstanding of?) 'retention' and 'postvoid residual'<sup>4</sup> Someone who is able to void, but has PVR does *not* have a retention but this patient had, according to the report both 'retention' *and* 'PVR'... Information about reported 'usual voiding frequency' before the Covid-19 disease & GBS based on history is missing and or preexisting signs of LUT dysfunction, seem not excluded. And last but not least, regarding neurogenic LUT dysfunction and management: a mechanism of action for alpha adrenergic antagonists in women is lacking since women do not at all have smooth muscle alpha-receptors in their bladder outflow tract. Equally important however and more general, alpha blockers barely affect voiding or completeness of emptying in neurogenic LUT dysfunction, even not in men.<sup>5</sup>

1 GBS is commonly described as a potential side effect of vaccination (patients's vaccination  
2 status is not mentioned) but infrequently reported as a consequence of Covid-19 -disease. I  
3 must assume that the GBS in this patient was a pure motoric GBS, but I this is not concluded  
4 and sensory function is hardly described. However in general: The first and most common  
5 causes of inability to void in bedridden patients are 'simply': immobility and 'simply' the  
6 failing to void in supine position on a bed in a clinical ward. The second theoretical cause  
7 may be pharmacogenic LUT dysfunction. Medication use is not excluded or discussed. Did  
8 she use e.g. opiates, especially tramal, or other (psychoactive<sup>6</sup>) medication that is known to  
9 potentially affect LUT function? Third (very hypothetical:) is that some reports exist about LUT  
10 function in association with thyroid function.<sup>7</sup> Has the patient –with medication- been  
11 euthyroid? Or had the illness affected the hormone levels?  
12

13 Furthermore, I doubt about the lab given for 'cytoalbuminologic dissociation': '34mg/dL of  
14 white blood cells'. I think that it should report cerebrospinal protein as well as total WBC (and  
15 %) and I think that the values given are not confirming the feature. Although, I possibly  
16 misunderstand the information, also a negative finding in this regard may be the case in  
17 clinically positive GBS, I would have appreciated this result to be better discussed.  
18

19 This report is suboptimal and somewhat incomplete; especially and, relevant to this journal,  
20 regarding the neuro-uological exam, and unsatisfactory to confirm or exclude alternative  
21 hypotheses/diagnoses for the patients urological situation. Causation in every phase of the  
22 clinical disease(s) history is weakly supported.  
23

24 Yes it is possible that a SARS virus causes polyneuropathy, and yes this can be or, cause a GB-  
25 syndrome and yes, this may lead to LUT dysfunction during the course of GBS. Within the  
26 good clinical practice of neuro-uology, a thorough and specific clinical examination is  
27 however required and, a thorough exploration of the differential diagnoses as well as an  
28 appropriate use of terms for the diagnoses, especially in first, unique or exceptional cases.  
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**Declaration of interests**

XThe authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests:

I am member of the editorial board of this journal