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Investigation of an outbreak of arthritis and conjunctivitis of unknown origin in Central Pentecost

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Abstract

Background: The national surveillance unit of the Ministry of Health was notified in June 2018 about an outbreak of suspected dengue cases (based on joint pain, muscle pain and conjunctivitis) in Central Pentecost. Dengue tests conducted were negative. Outbreaks with similar symptoms were reported in the same areas in 2012, 2014 and 2016.

Methods: The investigation team interviewed the nurses from the two health centers (HC) where cases were reported. HC registers were reviewed for arthritis cases recorded. Active cases in communities were interviewed and a line list created. Data were analysed with Excel.

Results: Interviews with nurses and review of registers showed a temporal and spatial relationship between cases of diarrhoea/dysentery and cases of arthritis. Investigation of active cases showed that out of 25 patients, 60% were males, 67% were over 35 years-old, 84% reported joint pain, 76% conjunctivitis. After follow-up investigation of 11 patients, 67% (6/9) reported swollen joint. Most patients mentioned an episode of diarrhoea or dysentery about a week before the onset of arthritis. Most affected patients were not able to walk for several weeks.

Discussion: Reactive arthritis following gastrointestinal infections by *Campylobacter*, *Shigella* and *Salmonella* and characterized by inflammation of joints and tissues have been described in the literature. An epidemic of reactive arthritis in Vanuatu was reported in 1991-1992 at Vila Central Hospital associating oligo-arthritis, conjunctivitis, and diarrhoea. In this study, there was a significant association with HLA-B27 positive patients. Melanesian population have some of the highest prevalence in the world (23% in Vanuatu). A similar outbreak of reactive arthritis was reported in South-West Santo in 2019. Awareness in the general population and training of health care workers should be conducted. Further research is needed to identify areas and populations at risk in Vanuatu.