

An electronic questionnaire was distributed to members of the Australian and New Zealand Gynaecologic Oncology Group (ANZGOG).

There were 16 responses from 107 possible recipients. Respondents included medical oncologists (8), gynaecological oncologists (6) and other physicians (1).

Results are detailed in Figure 1. The strongest points of agreement related to the impact of change in definition of optimal debulking, and influence of multidisciplinary discussion on impression of debulking status. Respondents generally felt that there has been a change in prescribing practices over time.

The low response rate limits any strong assertions; however, our results suggest the apparent increase in bevacizumab prescribing in Australia may be multifactorial. Few physicians felt that this was due to prescribing outside PBS indications. It is possible that the actual prevalence of women who are eligible for the PBS approved indication may be more than those derived from annual rates of new diagnosis. A detailed audit of individual cases through collaboration between gynaecological oncological

centres may provide greater insight into the evolving changes in bevacizumab prescribing.

Across all indications, bevacizumab is the 27th most costly drug to the PBS; an average dose costs \$2249.<sup>9</sup> Given that updated results of ICON 7 revealed a modest overall survival benefit in subgroup analysis only,<sup>8</sup> and failed to demonstrate an overall survival benefit at all in Gynecologic Oncology Group (GOG) 218,<sup>10</sup> judicious prescribing of such therapy is recommended.

## Acknowledgements

The authors thank ANZGOG for their support in distributing the questionnaire.

Received 20 December 2018; accepted 31 January 2019.

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doi:10.1111/imj.14458

## Chronic hepatitis E infection in an immunosuppressed, solid organ transplant patient

A 48-year-old Australian-born man with a history of double lung transplant for cystic fibrosis-related lung

disease in 1994, and renal transplant for calcineurin inhibitor-related toxicity in 2001, presented with a 12-month history of elevated gamma-glutamyl transferase (GGT), to approximately 300 U/L. Medications included tacrolimus, mycophenolate mofetil, prednisone,

lantus, omeprazole, cholecalciferol and trimethoprim/sulfamethoxazole.

Viral hepatitis (hepatitis A, B, C, CMV, EBV, HSV) and autoantibody testing were unremarkable. Ultrasound showed normal biliary tree and no evidence of cirrhosis. Liver biopsy demonstrated chronic hepatitis, interface and lobular changes with lymphocytic and eosinophilic infiltrate, and mild peri-portal fibrosis, thought consistent with a drug reaction. Trimethoprim/sulfamethoxazole was ceased. Magnetic resonance cholangiopancreatography showed filling defects in the common bile duct. Three stones were removed at endoscopic retrograde cholangiopancreatography (ERCP).

Six weeks after ERCP, he developed jaundice (bilirubin 500  $\mu\text{mol/L}$ ). GGT had declined; but alanine aminotransferase had risen to approximately 300 U/L, indicative of a new pathology. This occurred approximately 6 months after travel to England and France. He developed ascites and grade 2 hepatic encephalopathy. Hepatitis E virus (HEV) serology and polymerase chain reaction for HEV RNA in serum and stool were positive. Testing of stored serum from 6 months prior to onset of jaundice for HEV serology and RNA was also positive. Genotyping revealed genotype 3 HEV. Repeat liver biopsy showed chronic HEV with marked progression in fibrosis.

He was treated with ribavirin and reduction in immunosuppression (tacrolimus dose reduced, aiming levels 4–6). Unfortunately, he developed sepsis with decline in renal function. Liver transplantation was considered but he was too unwell to proceed, and there were concerns regarding persistent HEV infection post-transplant. He received palliative care and died.

Acute HEV is rare in Australia,<sup>1</sup> and is usually only seen in patients with recent travel. The incubation period is between 2 and 10 weeks.<sup>2</sup> HEV can cause chronic infection

in immunosuppressed patients.<sup>2</sup> Chronic HEV is defined as the presence of HEV RNA in serum or stool for at least 6 months.<sup>2</sup> HEV genotypes 1 through 4 exist; however, chronic infection has only been described with genotype 3.<sup>3</sup> HEV is endemic in southwest France, and is transmitted by consumption of infected pork, offal, mussels and fruit and vegetables irrigated with contaminated water.<sup>3</sup> Swine HEV infection appears to be prevalent in Australian commercial piggeries.<sup>1</sup>

A retrospective study of 85 adult solid organ transplant recipients with evidence of HEV found 65.9% developed chronic infection,<sup>4</sup> with 9.4% of these patients developing cirrhosis.<sup>4</sup> Liver fibrosis can evolve rapidly in solid organ transplant recipients, leading to hepatic decompensation and death.<sup>3</sup>

Ideally, candidates for liver transplantation with chronic HEV should clear the virus prior to transplantation as infection may recur and lead to cirrhosis in the graft.<sup>3</sup> Reducing immunosuppression can clear HEV in around one-third of patients.<sup>3,4</sup> Small series have evaluated ribavirin monotherapy and found that sustained virologic response is achieved in approximately 80% with a 3-month course.<sup>2</sup>

This case demonstrates that chronic HEV can occur in immunosuppressed patients in Australia, and should be included in the differential of immunosuppressed patients presenting with unexplained hepatitis.

Received 4 December 2018; accepted 21 March 2019.

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