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Patients with the 1p/19q co-deletion (n=13) had a median survival of 74 months (95% CI 21-127 months), while those without the co-deletion (n=7) had a median survival of 60 months (95% 47-74 months) although the difference was not significant to the small size of this preliminary dataset (p=0.782).

### DISCUSSION

Our review of anaplastic oligodendroglial tumours treated "pre-1p19g stratification" indicates our clinical outcomes are comparable with other published reports. This study serves as an important baseline for future comparative studies following the recent change in practice. It is also a requirement of ongoing national cancer peer review to report regional outcomes for patients and benchmark them with the national standards. Furthermore, with the emergence of molecular profiling of all gliomas as a mandatory requirement in the forthcoming amended WHO diagnostic criteria, it will be important to have access to a regional service that can provide molecular profile in tandem with routine histology reports. Not only will this ensure our patients receive the same standard of care as other UK neuro-oncology centres but also minimise anxiety associated with delays in molecular profile reports returning from outside institutions.

The authors have no conflict of interest apart from the pressing clinical need of a regional molecular profiling service.

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# A SHOTGUN INJURY TO THE BUTTOCKS; GETTING TO THE HEART OF THE MATTER.

Editor,

### **CASE:**

A 19-year-old male presented with a shotgun injury to the buttocks. Entry wounds were visible on both buttocks. There were no other wounds. A pelvic radiograph revealed multiple pellets projected over the right hemi-pelvis (Figure 1). A chest radiograph demonstrated two small foreign bodies in the region of the right heart (Figures 2 and 3). Subsequent computed tomography showed extensive shrapnel in the right transgluteal and perineal regions and two pellets embedded in the right atrium. This embolisation is attributable to entry into the circulation via the pelvic venous system. The patient underwent debridement of the buttock wounds. An echocardiogram excluded a patent foramen ovale. No attempt was made to retrieve the embolised pellets and the patient has remained asymptomatic.



Fig 1.



Fig 2.

### **DISCUSSION:**

Foreign body embolisation is a rare complication of penetrating trauma from firearms. The incidence of bullet embolisation after penetrating injury is estimated to be 0.3 - 1% (1). Patients may be asymptomatic, however the development of complications such as distal limb ischaemia, endocarditis, pulmonary embolism or stroke should prompt consideration of emboli. The diagnosis of bullet embolisation should also be considered when there is a discrepancy between the number of penetrating wounds and the foreign bodies identified, the location of the bullet does not match that which would be expected by the trajectory or when migration of bullets are demonstrated on serial radiographs.



Fig 3.

The most common destination of venous emboli is the right ventricle followed by the pulmonary artery. Embolisation to the right atrium represents less than 5% of the final destination of all such emboli (2). The most common destination of

bullet emboli within the arterial system is the femoral artery. The main risk associated with venous emboli is pulmonary embolism, however arterial complications may still occur from right heart emboli if a patent foramen ovale is present. The incidence of patent foramen ovale in the general population is estimated at 25% (3). Emboli in the arterial system are symptomatic in 80% of cases compared to 33% of venous system cases (4).

Foreign bodies that embolise to and remain within the heart have been managed both conservatively and surgically in the literature (5). There may be a role for percutaneous intervention in some cases, however this has not been explored in detail. The presence of complications including endocarditis or arrhythmias may be an indication for intervention. Intra-cardiac emboli may be entrapped within endocardial trabeculations and with time can become encapsulated within fibrous tissue. The long-term risks of endocarditis or mural thrombus formation are not known.

#### **CONCLUSION:**

Foreign body embolisation should be considered in patients presenting with unexpected symptoms, signs or radiological findings following firearms injury. An echocardiogram should be performed for right heart emboli to exclude a patent foramen ovale due to the risk of arterial embolisation.

The authors have no conflicts of interest

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