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include obtaining samples for toxicology, biopsy of lesions, minimally invasive vascular access, and contrast enhanced imaging studies.

THE FORMATION OF A CARDIAC ARREST REGISTRY IN AUSTRALIA [END UNEXPLAINED CARDIAC DEATH (EndUCP) REGISTRY]

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The End Unexplained Cardiac Death (EndUCD) Registry commenced in Victoria, Australia in April 2019. It is a multicentre cardiac arrest surveillance registry for patients aged 1 to 50 years. It is intended to expand into NSW and then other states of Australia. The key aims of the EndUCD Registry are to:

- 1) Provide a patient support resource, including website, patient-oriented information and streamlined referral process.
- 2) Create a research platform for advocacy and improving understanding of accurate rates of sudden cardiac arrest/ death in patients aged 1–50 years old.
- 3) Create a genetic biorepository as a resource for future studies.
- 4) Provide a state-of-the-art resource for clinicians wishing to link cardiac arrest patients and families in with psychological support, comprehensive family screening and consideration of genetic testing.

This presentation will examine the initial formation of the registry and present initial data from the first 2 years of collection and examine the role of forensic pathologist and forensic services in such a registry.

BACKGROUND, TESTING METHODS, AND LABORATORY APPROACHES TO SARS CORONAVIRUS-2 (SARS-CoV-2) AND COVID19

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Introduction: A pandemic is an epidemic occurring worldwide, crossing international boundaries and affecting many people. The spread of SARS-CoV-2 from Hubei province in China globally has led to rapid changes in our approaches to diagnosis, with rapid use of molecular methods such as whole genome sequencing (WGS) to characterise mutations, and deployment of novel therapeutics including mRNA vaccines and monoclonal antibodies.

Methods: New methods for diagnosis, including WGS, and different approaches to emerging mutations in virus variants of concern (VOC) will be discussed.

Results and conclusions: Diagnosis now uses standard molecular methods including commercial and inhouse techniques, more recently rapid antigen detection, and research into rapid smartphone based nanoparticle assays. Laboratory practices of sample pooling, reflex testing using WGS, and workflow changes are now routine.

The use of rapid WGS techniques,¹ and available Australian data,^{2,3} have informed assessment of the accuracy and utility of these methods in the diagnostic laboratory. Assessment of changes in PCR primer binding sites, and of the influence of how sequence data are assessed (Foster *et al.*, in press) means accreditation and QA programs need to be continuously updated.

References

1. Bull RA, Adikari TN, Ferguson JM, *et al.* Analytical validity of nanopore sequencing for rapid SARS-CoV-2 genome analysis. *Nat Commun* 2020; 11: 6272.
2. Rockett RJ, Arnott A, Lam C, *et al.* Revealing COVID-19 transmission in Australia by SARS-CoV-2 genome sequencing and agent-based modeling. *Nat Med* 2020; 26: 1398–404.
3. Seemann T, Lane CR, Sherry NL, *et al.* Tracking the COVID-19 pandemic in Australia using genomics. *Nat Commun* 2020; 11: 4376.

CORONAL CASES: SARS-CoV-2 INFECTION AND COVID-19

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Victoria's second wave of SARS-CoV-2 infections saw a number of reports of deaths of SARS-CoV-2 positive persons made to the coroner. Whilst COVID-19 deaths are natural and do not routinely fall under the coroner's jurisdiction, these cases were brought to the coroner's attention due to deaths