

# Unfolding *EHJ Open*

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‘In the afternoons it was the custom of Miss Jane Marple to unfold her second newspaper’.

This afternoon (at least in one of the time zones today), we invite you to unfold the second issue of *European Heart Journal Open (EHJ Open)*. The *EHJ Open* editors now have the custom of unfolding new submissions. We therefore cordially encourage you to be part of the initiative in *EHJ Open* to #OpenUpYourScience.<sup>1</sup> The above citation from *Nemesis* by Agatha Christie (1971) refers to a fastidious and careful seeking of knowledge during an established routine.<sup>2</sup> This can also illustrate the scientific curiosity and routines, for which an open access enables habitual and unlimited unfolding of novel science. To stimulate this habit, some of the important contributions to the second issue of *EHJ Open* are highlighted below.

## COVID-19 vaccine-induced immune thrombotic thrombocytopenia

A review in this issue of *EHJ Open* concludes that thrombotic complications have been reported in 1 per 100 000 COVID-19 vaccinated irrespective of age, rising to 1 in 50 000 above 50 years vaccinated with ChAdOx1 nCoV-19.<sup>3</sup> This is referred to as vaccine-induced immune thrombotic thrombocytopenia (VITT)<sup>3</sup> or thrombosis with thrombocytopenia syndrome (TTS) after adenoviral COVID-19 vaccine.<sup>4</sup> In parallel, the FAPIC score identified Fibrinogen levels, Age, Platelet count, and the presence of Intracranial haemorrhage, and Cerebral venous sinus thrombosis significantly associated with mortality in cases of VITT/TTS.<sup>4</sup> The increased levels of anti-PF4 antibodies post-vaccination<sup>3</sup> transduces an IgG-mediated thrombus formation accompanied by a fulminant immune activation.<sup>5</sup> *EHJ Open* closely follows the rapidly developing field of COVID-19 research, which now extends previous studies on treatment<sup>6</sup> to consequences of vaccine.<sup>3</sup>

## Epigenetic regulation for the resolution of inflammation in atherosclerosis

The *Translational Basic Science* section illustrates that a failure in the resolution of inflammation characterizes both COVID-19<sup>7</sup> and the chronic inflammation in atherosclerosis.<sup>8</sup> The present *EHJ Open* issue brings the attention to epigenetic modifications behind the macrophage plasticity to polarize towards a pro-resolving phenotype.<sup>9</sup> In particular, DNA methylation and histone modifications in response to inflammation may tune the long-term immune response away from resolution.<sup>9</sup> Although the implications for epigenetic modifications in COVID-19-associated hyperinflammation remain to be established, the non-resolving inflammation in atherosclerosis<sup>8</sup> can potentially be counteracted by therapeutic strategies against epigenetic modification.<sup>9</sup>

## The tricuspid valve as a causal factor for heart failure

The new ESC guidelines for the management of valvular heart disease put emphasis on the comprehensive evaluation and surgical intervention for tricuspid regurgitation.<sup>10</sup> Previously referred to as the ‘forgotten valve’,<sup>11</sup> the tricuspid valve is now gaining increased attention from an interventional point of view with emerging transcatheter interventions.<sup>10</sup> This issue inaugurates the section of *Valvular Heart Disease*, in which a causal mediation analysis identified a significant impact of tricuspid regurgitation on heart failure outcomes in atrial fibrillation.<sup>12</sup> The echocardiographic indexed tricuspid annular diameter and right ventricle fractional area change provided superior prediction of larger tricuspid regurgitation impact in heart failure patients.<sup>12</sup> These findings<sup>12</sup> reinforce the importance of the clinical decision-making process, for which a dedicated TRI-SCORE to predict

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outcome after isolated tricuspid valve surgery for severe tricuspid regurgitation was recently developed.<sup>13</sup>

## Population studies

The section on *Prevention and Epidemiology* in this issue present large studies on primary and secondary prevention. First, administrative registry data from almost 3 million Danish residents aged 30–85 years free of cardiovascular disease provided accurate prediction of personal and population-level 5-year first cardiovascular event.<sup>14</sup> Administrative data from the neighbour country showed that clinical trial participants with myocardial infarction were characterized by a larger proportion of male sex, higher socio-economic status and a more advantageous risk profile compared with trial non-participants.<sup>15</sup> These studies illustrate the value of real-world data for cardiovascular prevention and post-event follow-up in relation to clinical trials.

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