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New therapeutic targets for myocardial infarction

S. N. Goyal *et al.* (**page 332**) highlight the growing concern over the increase in incidences of coronary artery disease around the globe. Continuous efforts are being put by researchers to identify and explore new therapeutic targets to combat these diseases. The article specifically talks about myocardial infarction which is an important share holder among coronary artery diseases. Coronary artery disease is characterized by insufficient blood supply to the regions of the myocardium which can lead to development of infracted zones which ultimately replaced by fibrous tissue. Salvaging methods to maintain perfusion brings about affliction to myocardium and has been attributed to the well-known phenomenon of ischaemic–reperfusion injury. Various pathways and cascading events have been explored till date to identify pathogenesis of myocardial infarction. Various targets have been identified and are being therapeutically exploited to prevent the development of disease. Along with current therapies including use of beta-blockers, ACE inhibitors, calcium channel blockers, antiplatelet agents, thrombolytics, nitrates, antioxidants and free-radical scavengers several other investigational targets like C1-esterase inhibitor, anti-TNF-alpha therapy, glucagon-like peptide-1, insulin-like growth factor-1 and involvement of gene therapy have been discussed in concise manner.

Although therapy for coronary artery disease has entered a new era, most of the current therapies were developed in the absence of defined molecular targets. Increasing knowledge of the biochemical and cellular components involved in myocardial infarction has led to the identification of novel and potentially more effective therapeutic approaches to treat the disease.

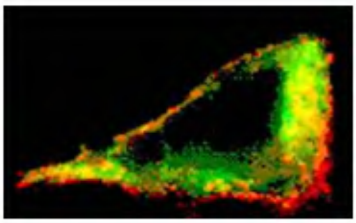
Seasonal variations in mercury concentrations

Urban and industrial activities in and around coastal areas introduce significant amounts of pollutants into the marine environment. In many cases these started more than two decades ago and are still continuing, causing significant and permanent disturbances in marine systems and consequently, environmental and ecological degradation. Among other pollutants, heavy metal contamination of sea water due to industrial effluent discharge and dumping of land-based solid waste is of great concern today. Although mercury (Hg) occurs as one of the rare elements of the crust, its wide range of industrial applications in the past 50 years have contaminated almost everywhere everything and coastal water is no exception. Though the anthropogenic sources of Hg in the marine environment are numerous, until recently, effluents from chloro-alkali plants contributed significantly to its load in many coastal and inshore areas. Moreover, although the change in the electrolytic process has largely eliminated the use of Hg in chloro-alkali plants, the past emissions deposited in the aquatic environment and those emanating from other sources continue to exhibit its distinct signature in water, sediment and biota of regions influenced by its fluxes. In India, awareness about the Hg pollution came into limelight when the possible adverse implications of the Hg loss from 38 chloro-alkali plants to the tune of 180 t yr^{-1} was reported by Choudhury (1980).

Satpathy *et al.* (**page 384**) study the seasonal variation of dissolved Hg in the coastal waters of Kalpakkam and compare the values with those reported earlier. Hydrographical parameters such as pH, salinity, turbidity and dissolved oxygen were also measured to correlate them with Hg concentration.

Role of calcium in pheromone perception

The mammalian vomero nasal organ (VNO) recognizes pheromones that provide information about the social and reproductive status of other individuals of the same species. The putative pheromone receptors expressed in the VNO are encoded by at least two G-protein coupled receptor gene families namely, V1R receptor expressed in the apical compartment of the VNO, and V2R receptors are expressed in the basal domain. The mouse V1R gene family consists of at least 137 intact genes from at least 12 distinct subfamilies. V1R genes are clustered at multiple loci in the genome; V1R clusters have been described on mouse chromosomes 6, 7, 13 and 17. Distinct social and sexual



behaviours exhibited by different species are likely to be reflected in differences in the repertoire of pheromones and their receptors. Species-specific pheromone recognition can contribute to prezygotic barriers that reduce the frequency of unproductive matting. It is interesting to state that the individual neurons in the VNO express one allele of a single V1R gene such that the function of the sensory cell is defined by the expression of receptor gene. Unlike olfactory receptors expressed in the main olfactory epithelium of the nose, V1Rs are thought to interact with a narrow range of odorants, if single pheromone substances. Kannan *et al.* **page 387**) report the role of calcium in pheromone perception which would assist to elucidate the role of anti-pheromone binding protein in preventing fertilization and pregnancy in human animal model, monkey by modulating the neuro endocrine functions.