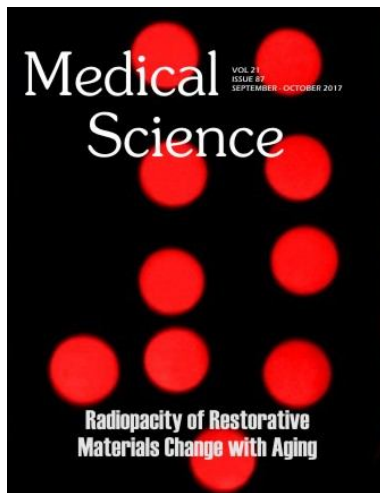


# Medical Science

## About the Cover



Dental materials should be radiopaque enough to be identified from enamel and dentin and enable the detection of secondary caries, marginal defects. The aim was to evaluate the radiopacity of restorative materials after 6 months of aging in distilled water. Twenty-two restorative materials were used and the radiopacity them were first evaluated after setting and after 6-months of storage in distilled water. Human primary and permanent tooth slices were also used in the study. Restorative material specimens were prepared by using Teflon molds. Twelve specimens were prepared for each material group. All specimens were exposed together with an aluminum stepwedge using a phosphor plate. The analysis was made with Digora system. Filtek-Silorane, Aelite-LSPosterior, Theracal-LC, Biodentine, Ionofil-U, Vitrebond and GCP-Glass-Seal exhibited lower radiopacity values at the initial setting and after 6-months of aging with respect to permanent enamel. When compared with deciduous enamel, Filtek-Z550, Charisma, Riva-Light Cure and Equia-Fil exhibited lower radiopacity values at both readings. Spectrum-TPH, Filtek-Ultimate, Clearfil-Majesty Flow, Sultan-Versa, IRM and Adhesor exhibited statistically significant higher values of radiopacity at the 6-month evaluation. The radiopacity of restorative materials is dependent on the material type exerting different radiopacity values after 6-months (Ref: Duygu Tuncer, Ayşe Gülşahi, Sevi Burçak Çehreli, Neslihan Arhun. Does radiopacity of restorative materials change with aging?. *Medical Science*, 2017, 21(87), 214-223).

## ANALYSIS

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### **Does radiopacity of restorative materials change with aging?**

Duygu Tuncer, Ayşe Gülşahi, Sevi Burçak Çehreli, Neslihan Arhun

Dental materials should be radiopaque enough to be identified from enamel and dentin and enable the detection of secondary caries, marginal defects. The aim was to evaluate the radiopacity of restorative materials after 6 months of aging in distilled water. Twenty-two restorative materials were used and the radiopacity them were first evaluated after setting and after 6-months of storage in distilled water. Human primary and permanent tooth slices were also used in the study. Restorative material specimens were prepared by using Teflon molds. Twelve specimens were prepared for each material group. All specimens were exposed together with an aluminum stepwedge using a phosphor plate. The analysis was made with Digora system. Filtek-Silorane, Aelite-LSPosterior, Theracal-LC, Biodentine, Ionofil-U, Vitrebond and GCP-Glass-Seal exhibited lower radiopacity values at the initial setting and after 6-months of aging with respect to permanent enamel. When compared with deciduous enamel, Filtek-Z550, Charisma, Riva-Light Cure and Equia-Fil exhibited lower radiopacity values at both readings. Spectrum-TPH, Filtek-Ultimate, Clearfil-Majesty Flow, Sultan-Versa, IRM and Adhesor exhibited statistically significant higher values of radiopacity at the 6-month evaluation. The radiopacity of restorative materials is dependent on the material type exerting different radiopacity values after 6-months.

*Medical Science, 2017, 21(87), 214-223*

## CASE REPORT

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### **Incidental finding of an ectopic pancreas in the jejunum: a case report**

Malibary N

The human embryology and anatomy still overwhelms us with different anatomic variants of different organs. Here, we present an asymptomatic jejunal heterotropic pancreas. A 61 year-old French white male presenting with complicated diverticular disease. A jejunal mass was detected intra-operatively, which turns out to be an ectopic pancreas. Ectopic pancreas or heterotropic pancreas is an uncommon pathology. Different locations on the alimentary tract have been described in the literature. Macroscopic identification is merely impossible. The knowledge of such an entity and its capability to complicate, might add an insight to our list of differential diagnosis when dealing with abdominal cases.

*Medical Science, 2017, 21(87), 224-226*

## RESEARCH

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### **Ron expression in the primary culture of rat hepatocytes**

Takashi Kato

Macrophage stimulating protein (MSP), identified to HGF-like protein (HLP), was discovered as a serum protein promoting macrophage motility. MSP activation is an important physiological response to tissue injury, and mediates its biological activities including the anti-inflammation through a receptor tyrosine kinase, RON. In general, resident peritoneal macrophages express Ron. In this study, I detected the Ron expression in the primary culture of rat hepatocytes, and phosphorylation of tyrosine 1238/1239 in Ron by adding recombinant MSP protein. I next examined the mitogenic activity of MSP in hepatocytes, but MSP could not sufficiently induce DNA synthesis. Actually, MSP insufficiently promoted the phosphorylation of ERK and Akt. Moreover, HGF unregulated the Ron expression in the hepatocytes, and therefore, might regulate the MSP-RON signaling. HGF might induce MSP-Ron signaling through increasing Ron expression.

*Medical Science, 2017, 21(87), 227-233*

### **Paroxetine: to meliorate the behavioral deficits-induced by repeated exposure to chronic mild stress in rats**

Muhammad Farhan, Ifaza Muneer, Safia Habib

Stress is an important precipitant factor for depression. Changes in various body systems that occur in depression are similar to those observed in response to stress. Chronic stress may alter behavioral, neurochemical and physiological responses to drug challenges and novel stressors. Chronic mild stress (CMS) could be used as an animal model of depression. Paroxetine is a novel phenylpiperidine compound that acts as a selective serotonin reuptake inhibitor (SSRI). It is a more selective and potent SSRI than fluoxetine, sertraline, or fluvoxamine. Paroxetine pharmacokinetics is well suited to clinical use. Stressful conditions possess a complex relationship with brain and body reaction to stress and depression as well. There is some stress evolved depression. Male rats were divided into two groups, animal of stressed group were exposed to CMS. Animals of unstressed and stressed group were administrated with paroxetine at dose 10 mg/kg/day for 14 days 1 hour before the animals exposed to CMS. The purpose of the present study was to investigate whether paroxetine might be act as antidepressant to reduce the depressive like behavior in animal model of depression. Chronic mild stress induced behavioral deficits which can be attenuated by repeated administration of paroxetine. CMS exposed animals showed depressive like behavior, which observed to be attenuated by the paroxetine treatment repeatedly. Growth rate was decreased as resultant of paroxetine treatment. Behavioral sensitization monitored in novel and familiar environment as well as anxiolytic activity in light dark and elevated plus maze were higher significantly in unstressed then stressed

animals. Clinical and preclinical studies consistently show that paroxetine alleviates moderate or severe depression and associated anxiety. It begins to act at least as rapidly as the tricyclic antidepressants.

*Medical Science, 2017, 21(87), 234-244*

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## CASE STUDY

### **Congenital rare anterior abdominal wall defect affecting the perineum- a case study**

Pramila Padmini Mishra, Narasinga Rao Bhattam

Abdominal wall defects with gastroschisis not uncommon but gastroschisis associate with abdominal viscera herniating within the boundaries of perineum is uncommon. A male still born foetus was procured from local government hospital. The foetus showed severe form of anterior abdominal defect and abdominal viscera herniating as caudally through the perineum, lower limb and spine deformities. This type of case is important for discussion of rare developmental malformations for post graduates, gynaecologists, paediatricians, etc.

*Medical Science, 2017, 21(87), 245-248*

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## OPINION

### **Inter-arm systolic blood pressure difference is associated with a higher incidence of ischemic strokes**

Shashi K Agarwal

Inter-arm systolic blood pressure difference (IAD) of more than 15 mm Hg (SIAD) is associated with increased cardiovascular morbidity and mortality. IAD is attributed to atherosclerosis of the upper arm arteries. Although suggested in the literature, it has never been objectively documented that this group of patients are at a higher risk of strokes. This study was done to see if an association exists between SIAD and strokes.

*Medical Science, 2017, 21(87), 249-252*

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### **Prediabetes in hypertensive patients: a common and dangerous co-morbidity**

Shashi K Agarwal

Hypertension and diabetes are common medical disorders, and frequently co-exist. Both conditions increase cardiovascular events. Recent studies have recognized that non-diabetic dysglycemia, or prediabetes, is more prevalent than diabetes. Prediabetic dysglycemia may be present in many patients for several years prior to the development of overt diabetes. Like diabetes, it increases the risk for cardiovascular events. The association of hypertension with prediabetes is therefore not benign. Aggressive life style changes and targeted treatment of both conditions is mandatory to reduce the higher cardiovascular morbidity and mortality seen in these patients.

*Medical Science, 2017, 21(87), 253-258*

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### **Low testosterone levels in male patients with hypertension**

Shashi K Agarwal

Testosterone is the predominant sex hormone in men. Hypogonadism usually results in decreased libido, erectile dysfunction, decreased muscle mass and strength, obesity, depressed mood and diminished energy, osteoporosis and decreased sexual hair. However, low testosterone levels are also associated with a spectrum of serious complications. These include hypertension, diabetes mellitus, obesity, metabolic syndrome, dyslipidemia and chronic inflammation. Low testosterone levels have been shown to be an independent risk factor for cardiovascular and all-cause mortality. This study looks at the prevalence of low serum testosterone levels in hypertensive men and briefly reviews its impact on associated cardiovascular risk factors.

*Medical Science, 2017, 21(87), 259-264*

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## ANALYSIS

### **Efficacy of vamana followed by nyagrodadi churna in the management of sthula madhumeha (NIDDM)**

Meera KJ, Pujar P Muralidhar

The present study is designed to assess the efficacy of Vamana, one of the detoxification treatment procedures of Ayurveda followed by administration of oral herbal medicine in Sthula Madhumeha with special reference to Noninsulin dependent Diabetes Mellitus (NIDDM). The prevalence of the disease Diabetes Mellitus is increasing all over the world. Shodana (Detoxification procedure) followed by shamana (Oral medication) is the treatment measure for Sthoola Madhumeha as explained in Ayurvedic text books. Thus the present study was undertaken to assess the effective management of NIDDM from classical ayurvedic point of view i.e., Vamana followed by Nyagrodadi Churna. The Screening of the patients between the age group of 30 to 50 years was done randomly and finally 30 patients who fulfilled all necessary criteria and gave a written consent for the clinical trial were registered for

the study. The selected patients were assessed for both subjective and biochemical parameters before and after treatment schedule. The study showed significant reduction in blood sugar level ( $P < 0.001$ , ANOVA) after the treatment schedule.

*Medical Science*, 2017, 21(87), 265-269