BRAC UNIVERSITY
Inspiring Excellence

PHARMA HIGHLIGHTS

ISSUE 28|January 2017

Can Busy Roads Impact Dementia Risk?

Dementia describes a collection of symptoms that are caused by disorders affecting the brain and is characterized by impairment of cognitive function. According to the report of Alzheimer's Disease International (ADI), around 47 million people are suffering from dementia globally and 58 percent of all people with dementia reside in developing countries that have less access to quality medical care and research. There is already research that air pollution and traffic noise can contribute to some forms of neurodegeneration such as reduced white matter and lower cognition, but a study published recently in the Lancet suggests that there could be a link between proximity to major roadways and serious neurological deficits that are seen in some cases of dementia. The study was observational and followed 6.6 million people in Canada between the ages of 20 and 85 from 2001 and 2012. Over the study period more than 243,000 people developed dementia and those living near high traffic areas did have a higher risk of developing dementia. Those closest to the busy roads, within 50 meters, had a 7% higher risk of dementia. Those within 50-100 meters had only a 4% higher risk and at distances of 100-200 meters the increased risk was only 2%. Two specific pollutants, nitrogen dioxide and fine particulate matter, were likely a big part of the increase risk, but other factors could be involved as well, including noise and other air pollutants. Increasing population growth and urbanization has placed many people close to heavy traffic, and with widespread exposure to traffic and growing rates of dementia, even a modest effect from near-road exposure could pose a large public health burden. Hence, more research to understand this link is needed, particularly into the effects of different aspects of traffic, such as air pollutants and noise.

Source:https://www.labroots.com/trending/neuroscience/5022/busy-roads-impact-dementia-risk

How Native Indian Peppers Suppresses Cancer

Scientists revealed the biological mechanism behind the anticancer effects of a different compound from an Indian pepper plant, known as the long pepper. Rather than capsaicin (the spicy chemicals in chili peppers), researchers found that a chemical in the Indian long pepper (*Piper longum*), known as piperlongumine (PL), acts to silence a gene that's overly abundant in cancers. In some cell experiments, PL killed some types of cancer cells while leaving healthy cells alone. In a mouse xenograft model, PL was shown to be effective at stopping cancer spread. Combined, PL has demonstrated anticancer effects in prostate, breast, lung, colon, lymphoma, leukemia, primary brain tumors, and gastric cancer. **Source:** https://www.labroots.com/trending/cancer/4984/native-indian-pepper-acts-suppress-cancer

Liraglutide provides new weight loss option for overweight and obese adults

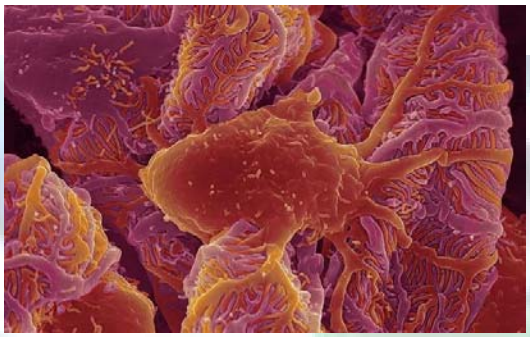
In addition to being an anti-diabetic drug, Liraglutide is now available for weight management in obese and overweight patients with associated comorbidities, as Saxenda. Saxenda is indicated as an adjunct to a reduced-calorie diet and increased physical activity for weight management in adults with an initial BMI of ≥30kg/m² (obese), or ≥27kg/m² to <30kg/m² (overweight) in the presence of at least one weight-related comorbidity such as dysglycaemia (pre-diabetes or type 2 diabetes mellitus), hypertension, dyslipidaemia or obstructive sleep apnoea. In patients with type II diabetes Saxenda should not be used with another glucagon-like peptide-1 (GLP-1) receptor agonist; doses of concomitant insulin or insulin secretagogues (eg, sulfonylureas) may need to be lowered to reduce the risk of hypoglycaemia. Liraglutide reduces fasting and post-prandial blood glucose levels by

stimulating insulin secretion and lowering glucagon secretion. The effect is greater in patients with pre-diabetes and diabetes than in those with normal blood glucose levels. Liraglutide is already available as Victoza for the treatment of type II diabetes.

Source: http://www.mims.co.uk

People with moderate renal impairment can now use Metformin products

Following a review of the evidence by the European Medicines Agency (EMA) renal impairment warnings are relaxed for Metformin-containing products. In 2001 an EMA review was conducted, which led to the revision of the the prescribing information for metformin-containing products available in the EU. A contraindication in all patients with moderate to severe renal impairment was included. This was done with the intention of minimising the risk of metformin-associated lactic acidosis. However, the recent study done in 2016 challenged the previous findings. Data analysed in the 2016 review show that there is no clear relationship between metformin concentration and the occurrence of lactic acidosis. So the review authors, recent literature and clinical guidelines for type II diabetes recommend the use of metformin in patients with moderate renal impairment, at maximum daily doses that do not cause significant metformin or lactate plasma elevations. The data reviewed show a clear relationship between renal function and metformin exposure, leading the authors to recommend a daily dose of 2g/day and 1g/day in patients with moderate renal impairment stages 3a (GFR 45-59ml/min) and 3b (GFR 30-45ml/min), respectively. A clear dosing recommendation, additional monitoring of GFR levels before and during treatment and updated warnings in the product literature are required to ensure the safety of the patients with a GFR >30ml/min. However, it still remains contradicted for the patients with severe renal impairment (GFR <30ml/min).



Source: http://www.mims.co.uk

Approval of Drugs for NSCLS and Multiple Myeloma by NICE

Recently, pembrolizumab and pomalidomide have been approved by the National Institute for Health and Clinical Excellence (NICE) for the treatment of non-small-cell lung cancer (NSCLC) and multiple myeloma respectively.In case of locally advanced or metastatic PD-L1-positive NSCLC, adult patients having at least one chemotherapy and targeted treatment (in case of an epidermal growth factor receptor or anaplastic lymphoma kinase-positive tumor) can be treated by the humanized monoclonal antibody pembrolizumab, recommends NICE. This is applicable on the proviso that the drug is stopped at two years of continuous treatment with no disease progression reported. On the other hand, pembrolizumab with the brand name Keytruda is licensed for the indication approved in the NICE guidance as well as for the treatment of adults in advanced (unresectable or metastatic) stages of melanoma in adults. The thalidomide derivative pomalidomide, in combination with low-dose dexamethasone, has been approved as an option for treating multiple myeloma in adults at third or subsequent relapse, following three previous treatments including both lenalidomide and bortezomib. Pomalidomide with the brand name Imnovid is licensed for the indications that differ from the NICE guidance in that it is indicated for use in adults with relapsed and refractory multiple myeloma who have received at least two prior treatment regimens, including both lenalidomide and bortezomib, and have demonstrated disease progression on the last therapy. The company is entitled to provide the drug within the discount agreed in the patient access scheme and it is applicable in both cases. Treatment of patients already being treated with either drug may continue according to whatever funding arrangements were in place before the guidance was issued until they and their NHS clinician consider it appropriate to stop. **Source:** http://www.mims.co.uk/nice-approves-drugs-nsclc-multiple-myelom