Scientists suggest that there are likely more oncogenic mutations due to this multi-national scandal.

NF2 is a gene which encodes merlin, a tumour-suppressing protein. Researchers compared scans of radiation-induced meningiomas with typical meningiomas. They discovered that both looked the same physically and were equally sporadic in occurrence. However, the radiation-induced meningiomas were found to be more aggressive, as they contained a mutation of NF2. NF2 is a gene which encodes merlin, a tumour-suppressing protein. Scientists suggest that there are likely more oncogenic mutations to be discovered.

A brain aneurysm is a weakened region of a blood vessel that supplies blood to the brain. ‘Clipping’ is a common therapeutic surgical procedure that risks rupturing the aneurysm, potentially causing disability or death. Recent research from the Saint Louis University found that conscious sedation—keeping the patient awake during the surgery, rather than using general anaesthetic—mitigates these risks. When patients are conscious, they can better demonstrate the warning signs of blocked blood flow: such as blurred vision or the inability to make a fist. Thus, conscious sedation allows surgeons to monitor patients and know when to readjust the clips to avoid ruptures.

In a stroke of luck, researchers at the University of São Paulo have discovered a new virus, avian paramyxovirus 15, in a migratory bird species. The researchers were originally testing migratory birds for Newcastle disease, which is harmless to humans but deadly to domestic poultry and wildfowl. Avian paramyxovirus 15 is a pathogen in the same family as Newcastle disease virus. Co-infection of the viruses discovered a new virus, avian paramyxovirus 15, in a migratory bird species. The researchers were originally testing migratory birds for Newcastle disease, which is harmless to humans but deadly to domestic poultry and wildfowl. Avian paramyxovirus 15 is a pathogen in the same family as Newcastle disease virus. Co-infection of the viruses discovered a new virus, avian paramyxovirus 15, in a migratory bird species. The researchers were originally testing migratory birds for Newcastle disease, which is harmless to humans but deadly to domestic poultry and wildfowl. Avian paramyxovirus 15 is a pathogen in the same family as Newcastle disease virus. Co-infection of the viruses
In a large-scale case-control study spanning 12 years, researchers in New Zealand found that individuals given a discontinued version of the meningitis B vaccine (MeNZB) were less likely to be diagnosed with gonorrhea, a common sexually transmitted disease. MeNZB is the first vaccine which protects against gonorrhea. However, this study did not establish a causal relationship; more research is therefore necessary before a dedicated vaccine against gonorrhea can be made available to the public.

Old Vaccine, New Protection? 
July 2017 /// New Zealand

CRISPR and Clearer 
August 2017 /// United States, South Korea, China

Scientists from the USA, South Korea, and China successfully used CRISPR-Cas9 gene editing to fix a mutation in the MYBPC3 gene in human embryos. This mutation causes hypertrophic cardiomyopathy, a condition in which the heart muscle thickens, leading to heart failure and sudden death in seemingly healthy individuals. This major milestone in human genetic engineering marks a significant improvement in efficiency and accuracy over previous attempts; researchers found no evidence of off-target genetic mutations after this experiment. Furthermore, amongst 58 embryos, there was only one case where a cell contained different genetic sequences than the rest of the embryo.

Potential Ebola 
Vaccines Bring Hope 
October 2017 /// Liberia

Every year between September and April, hundreds of cases of the plague are reported in Madagascar. In previous years, most cases were of the bubonic variety, which is the least severe form of the plague and is transmitted by flea bites. However, an alarmingly high death toll has been noted this year, as most cases have been attributed to the disease’s most deadly and virulent form; the pneumonic plague. Pneumonic plague is transmitted from person to person via coughing and can be fatal within 24 hours if left untreated. In the past, the plague was mostly confined to mountainous, rural areas. However, the current outbreak has spread to several major Malagasy cities and the nearby country of Seychelles.

Close the Borders! 
August 2017 /// Madagascar

Clinical trials have shown that two vaccines, rVSV-ZEBOV and ChAd3-EBO-Z, elicited a long-lasting immune response against Ebola. Within one month, most study participants developed antibodies that persisted for an entire year. Sustained vaccine durability is important, but researchers warn that the significance of this prolonged immune response is unclear. Investigators could not further study the vaccine’s efficacy against Ebola, as the outbreak in Liberia ended before more clinical trials could begin.

Vaccines Bring Hope 
October 2017 /// Liberia

HIV can be treated in HIV-infected pregnant women with a once-weekly injectable antiretroviral drug, “Vedolizumab”. The drug is more effective and less likely to show diarrhea, weight loss, and other side effects than the current daily dosing antiretroviral regimen. The drug’s approval was granted by the US Pharmacological Agency (USDA), the largest drug development agency in the world.

Old vaccine, new protection? 
November 2017 /// United States, South Korea

President Donald Trump signed a tumultuous budget into law on October 17, 2017, after Congress passed it on October 12, 2017. The bill, which was enacted after a 35-day government shutdown, would keep the federal government running through December 21, 2017.

MedPulse 
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