NEWS IN BRIEF

GENE EDITING OF HUMAN EMBRYOS

Chinese researchers have created history (and vociferous debate) by editing genetic material in human embryos. They took non-viable embryos discarded from *in vitro* fertilization (IVF) clinics and tried to replace the gene responsible for beta thalassemia. They used a system called CASPR/Cas 9 which is an enzyme which splices the DNA at the point of the mutated gene. Subsequently a normal molecule replaces the deleted area. Of the 86 embryos in the experiment, 71 survived. Of them, the exome of 54 were tested and 28 were successfully spliced but only a fraction had the correct replacement by appropriate genetic material. What was more ominous was the appearance of a number of other unintended mutations in other parts of the germ line. This is one of the main objections of the technology.

The article was rejected by *Nature* and *Science*, partly due to ethical reasons. It was submitted to the Beijing-based online journal *Protein & Cell* on 30th March, accepted after just 2 days, and published on 18th April. So far, such experiments have been done only in adult human cells and animal models. This is the first time this was done in human embryos. Predictably, many scientists have lampooned the work feeling it has crossed a scientific Rubicon which previously deterred researchers from tampering with human embryos. Why does research on human embryos invoke such strong emotion? Medical ethicists feel it will open the floodgates of experiments on artificially manipulating the human germline. The evolutionary consequences of these human endeavors are neither deeply understood nor predictable. (*http://www.nature.com/news/chinese-scientists-genetically-modify-human-embryos-1.17378; 22 April 2015*)

MOBILE-PHONE MICROSCOPE

Samuel Sia of Columbia University has developed an *App* to enable use of an iPhone to diagnose *Loa loa* infection. It is important in Africa where co-parasitism is common. Patients with oncocercariasis and *Wucheria Bancrofti* infection cannot be given ivermectin if they have *Loa loa* coinfection because it can precipitate cerebral edema.

In this device, a blood-filled capillary is loaded into a plastic case with a lens, and aligned over an iPhone camera. An *App* on the phone takes a video of the magnified blood sample and matches the movement of wriggling *Loa loa* parasites with previously stored data. This helps to diagnose and count the number of parasites. It needs to be studied whether it will work in the field. The ubiquitous mobile phone could probably play a more powerful role in far flung areas than we have imagined. (*Sci Transl Med. 2015;*7:*286re4*)

PHANTOM CLINICAL TRIALS

Phantom clinical trials are bonafide trials which are conducted but remain unpublished for myriad reasons ranging from negative or unfavorable results. To sidestep the consequences of non-publication, the WHO has asked that all trials be registered in a WHO primary clinical trial registry so that they can be accessible through the International Clinical Trials Registry platform. Further researchers need to publish key outcomes in a public registry and submit findings to a peer reviewed journal.

A 2013 study in the *BMJ* showed that out of 585 large clinical trials, 171 studies involving nearly 300,000 patients were still unpublished some 5 years after completion. This skews our decision-making regarding research funding, regulations and public health. Unpublished data add to public and private spending that includes patients who pay for suboptimal or even harmful treatments. The WHO's call includes older trials which have been done and never published, but would still have an important bearing today. (*http://www.who.int/mediacentre/news/notes/2015/medical-research-transparency/en/*)

THE EARTHQUAKE IN NEPAL

The earthquake in Nepal has taken a great toll. A rapid assessment by the WHO found that in four of the worst hit areas, all the hospitals were completely damaged. In the five functioning hospitals in other districts, there was acute shortage of medical supplies while medical personnel were adequate. Essential medicines, surgery kits, IV fluids, antibiotics, suturing materials, and tents and mattresses were in great demand. The WHO has already provided essential medicines and trauma/surgical kits to treat 120,000 people for three months.

The WHO is involved in deploying foreign medical teams and humanitarian assistance in the most affected areas. Field hospitals are being set up. Prevention of outbreaks of communicable diseases is also on top priority. As of 1st May 2015, 6200 deaths and injuries in 14,000 people have been reported. (*http://www.who.int/mediacentre/news/releases/2015/health-assessment-nepal/en/*)

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