ZyCoV-D an intradermal Covid vaccine got Emergency Use Authorization from Central Drug Standard Control Organization on 20th August 2021. ZyCoV-D is an intradermal vaccine, which will be administered in three doses for the adolescents in the 12-18 age group, besides the adult population. ZyCoV-D is a Plasmid DNA vaccine which when administered produces the spike protein of the SARS-CoV-2 virus and elicits an immune response mediated by the cellular and humoral arms of the human immune system, which play a vital role in protection from disease as well as viral clearance. It will be applied using The PharmaJet® needle free system. ZyCoV-D is stored at 2-8 degree C but has shown good stability at temperatures of 25 degree C for at least three months. The thermostability of the vaccine will help in easy transportation and storage of the vaccine and reduce any cold chain breakdown challenges leading to vaccine wastage. The plasmid DNA platform provides ease of manufacturing with minimal biosafety requirements (BSL-1). Also being a Plasmid DNA vaccine, ZyCoV-D doesn’t have any problem associated with vector based immunity. The Plasmid DNA platform also allows generating new constructs quickly to deal with mutations in the virus, such as those already occurring. This is World’s first Plasmid DNA Vaccine for COVID-19 and result of Phase I/II has been published in Lancet. This vaccine is the second Covid vaccine developed indigenously in India after Covaxine by Bharat Bioteck which shows innovation strength of Indian Pharmaceutical Industry.
**New Drug:** Recombinant varicella zoster virus glycoprotein E antigen vaccine for prevention of herpes zoster and postherpetic neuralgia

**Approved indication:** prevention of herpes zoster and postherpetic neuralgia

Shingrix (GlaxoSmithKline)

**single-dose vials containing powder for reconstitution**

Herpes zoster (shingles) is a painful condition characterised by a unilateral vesicular rash with a dermatomal distribution. The number of blisters and the area of affected skin vary, as does the severity of associated symptoms and complications, such as muscle weakness and postherpetic neuralgia. Herpes zoster may occur in anyone who has previously had varicella zoster infection (chickenpox) as it is caused by reactivation of the latent varicella zoster virus from a dorsal nerve root ganglion. Such reactivation is more likely in older age or during immunosuppression which results in lowered zoster-specific cell-mediated immunity. While herpes zoster resolves in most people without sequelae, some have persistent and significant discomfort. Postherpetic neuralgia, which is more common in people over 50 years old, is characterised by debilitating pain and dysaesthesia for more than three months.

The first vaccine against herpes zoster became available in Australia in 2006. Ten years later, this live attenuated vaccine was offered through the National Immunisation Program to people aged 70–79 years. It has a moderate protective efficacy of 51% in adults 60 years of age or older. However, as a live vaccine, it cannot be administered to immunocompromised patients.

This new vaccine is a recombinant form of the herpes zoster glycoprotein E antigen, also known as Hz/su. It does not contain live virus and therefore may be suitable for immunocompromised patients pending the results of further studies. The US Centers for Disease Control and Prevention advises that the vaccine can be administered to people on low-dose immunosuppressive therapy. Glycoprotein E has a central role in herpes zoster infection and is an important target for immune responses. The vaccine is designed to induce antigen-specific cellular and humoral immune responses in persons with pre-existing immunity against herpes zoster virus. However, it is not necessary to have a documented history or serological evidence of prior varicella infection. Vaccination involves two 0.5 mL intramuscular injections, preferably in the deltoid muscle, with a two-to-six-month interval between doses.

A placebo-controlled phase III trial, ZOE-50, involved 15,411 participants, aged 50 years or older with no history of zoster infection or vaccination. There were 7698 people who were randomised to receive the vaccine and 7713 who received injections of placebo. The second dose was given two months after the first. After a mean follow-up of 3.2 years, herpes zoster was diagnosed in six people in the vaccine group and 210 in the placebo group.

A parallel trial, ZOE-70, randomised 14,816 adults 70 years of age or older. Among the people who could be evaluated after 3.7 years of follow-up, herpes zoster occurred in 23 of the 6541 vaccine recipients and in 223 out of the 6622 placebo recipients.

In pooled data from both trials for participants aged 70 years and older, the vaccine efficacy was 91.3%. Pooled data from all participants 50 years and older showed that the incidence of postherpetic neuralgia was 0.1 per 1000 person-years in the vaccine group and 0.9 in the placebo group, indicating a vaccine efficacy of 91.2%. The efficacy in preventing postherpetic neuralgia is most likely due to the vaccine reducing the rate of herpes zoster, because there was no reduction in the incidence of postherpetic neuralgia in the small number of vaccinated people who did develop herpes zoster.

In ZOE-70 a randomly selected subgroup of 1025 participants recorded adverse events within seven days of vaccination. Injection-site reactions were reported in 74.1% of vaccine recipients and 9.9% of those who received placebo. The most common local reactions to the vaccine were pain (68.7%), redness (39.2%) and swelling (22.6%). These symptoms typically lasted less than four days. General symptoms included myalgia (31.2%) and fatigue (32.9%). In the mean follow-up period of four years, the incidence of serious adverse events was similar in the vaccine (16.6%) and placebo (17.5%) groups. Potential immune-mediated diseases occurred in 1.3% and 1.4%.
The vaccine may be given at the same time as seasonal influenza vaccine, but at a different site. There are no data in relation to concomitant injection with other vaccines. The recombinant herpes zoster glycoprotein E vaccine appears to be of higher efficacy than the live vaccine. However, the incidence of injection-site reactions is higher than with live vaccine (74.1% vs 48%). The live vaccine protects for about five years, but its efficacy declines from 63.9% in the 60–69-year-old group to 37.6% in those aged 70 years or over with respect to protecting against herpes zoster. In contrast, in ZOE-50 and ZOE-70, the efficacy of the recombinant vaccine did not appear to decline with increasing age. It was similar in all age groups (50–59, 60–69, and 70 years and over). However, if herpes zoster does occur after vaccination with the live vaccine, its efficacy against postherpetic neuralgia (66.5%) does not decline with age. The recombinant vaccine has evidence of maintaining its effectiveness for four years, but studies are required to explore its longer term efficacy.

Since 2020, when the live vaccine was discontinued in the USA, the recombinant vaccine has been the only vaccine available. The Australian approval is for people aged 50 years or older.

References

Ref. Australian Prescriber

Indian status: This vaccine is available in Indian market.

Gabapentin, pregabalin Risk of dizziness, somnolence, abuse and dependence
The Medsafe has announced that gabapentin and pregabalin should not be used with central nerve system (CNS) depressant (e.g. opioids) due to the risk of dizziness, somnolence, abuse and dependence. Gabapentin and pregabalin are indicated for the treatment of neuropathic pain. Gabapentinoids are not licensed to treat other types of pain. Patients should not drive or operate complex machinery until it is known whether the medicines affect the ability to perform the activities. Dizziness and somnolence were the most commonly reported reasons for treatment discontinuation. Cases of abuse and dependence have also been reported with the use of gabapentin and pregabalin in New Zealand and in other countries. Concurrent treatment with opioids and gabapentinoids increases the risk of abuse and dependence. Up to June 2020, the Centre for Adverse Reactions Monitoring (CARM) received 50 adverse reaction reports for pregabalin (7 cases for withdrawal syndrome) and 248 reports for gabapentin (7 cases for withdrawal syndrome).
Reference: Prescriber Update, Medsafe, March 2021 (www.medsafe.govt.nz/)

Interaction between Vildagliptin and ACE inhibitors increased risk of angioedema
The Medsafe has announced that combined use of vildagliptin and an angiotensin-converting enzyme (ACE) inhibitor increases the risk of angioedema, compared to use of either medicine alone. Vildagliptin is indicated for the improvement of glycemic control in type 2 diabetes. ACE inhibitors are indicated for
treatment of diabetic nephropathy. Since 2018, the CARM has received four reports of angioedema that started vildagliptin use. In two cases, the patients were already taking an ACE inhibitor when vildagliptin was initiated.

Reference: Prescriber Update, Medsafe, March 2021 (www.medsafe.govt.nz/)

Overuse of Steroid Causing Damage: Experts

A woman in her early 50s recently underwent hip replacement surgery at AIIMS. Doctors suspect the woman, a resident of Delhi, suffered from hip joint damage due to overuse of steroids while being treated for Covid-19.

“The patient came with pernicious pain in the hip joints following recovery from Covid-19. She did not have any history of fall or accident or other common problems known to damage the hip joints,” said Dr Rajesh Malhotra, head of orthopaedics at AIIMS. He added that several tests, including a biopsy of the soft tissue of the hip, were conducted and they confirmed inflammation in the joints.

Avascular necrosis of the femoral head is a common cause of pain in the hip. However, Dr Malhotra said it rarely caused unbearable pain and acute inflammation as was seen in the 52-year-old patient. “Covid-19 itself can cause avascular necrosis due to blood clots in the joints. Also, steroid use is known to affect blood supply in the head of the femur,” he added.

Doctors said steroid use was necessary in Covid-19 management, but it should be used judiciously to reduce the risk of side-effects in patients. “Earlier, we used to see 5-6 cases of avascular necrosis of the hip joints in a year. Now, post the pandemic, we are seeing 5-6 cases in a month. Covid-19 and the use of steroids may have contributed to it,” said Dr Yash Gulati, senior consultant and orthopaedic surgeon at Apollo Hospital.

Even at PD Hinduja National Hospital in Mumbai, doctors said they anticipated resurgence in cases of avascular necrosis due to large-scale use of steroids in Covid-19 cases.

In a case report published in British Medical Journal, a series of three cases were described in which patients developed avascular necrosis of the femoral head after being treated for Covid-19 infection. “Patients were symptomatic and developed early avascular necrosis presentation at a mean of 58 days after Covid-19 diagnosis compared with literature which shows that it generally takes six months to a year to develop avascular necrosis post steroid exposure,” it added.

Source: The times of India

Forthcoming Event............

**Pharmacists Day celebration**
Indian Pharmaceutical Association,
Bengal Branch

25th August 2021

Theme: Pharmacy: Always trusted for your health

Events:
- Community Awareness
- Regulatory Awareness
- Poster & Video competition

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