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checking on results with other patients who'd tried it," isn't alone. And that's odd since stem cell therapy is still in the clinical trial stage in India, with an estimated 4,000 trials currently underway.

Dr Pravin Mahajan, a general surgeon researching regenerative medicine for five years, who treated Jaggi among 40 others suffering from arthritis, hair fall, facial scars, acne, muscular dystrophy and cerebral palsy, agrees that not all patients respond to the same degree. "The response depends on the state and immunity of the patient. But all my diabetes patients are now either off insulin or on reduced dosage," he says.

Dr Geeta Jotwani, assistant director general (stem cell research) at the Indian Council of Medical Research (ICMR), argues that patients like Jaggi who show improvement are in fact, isolated cases. "For the few who show improvement, there are lakhs who don't," she says, adding that it's important that doctors follow up with their patients for at least five years after conducting the procedure to examine longevity of results and side effects. Most of Dr Mahajan's patients, for instance, have been receiving treatment only over the last two years.

Forty-seven-year-old Panvel resident Vishnu Gawli is one of them. The private detective, who is third in his family to suffer chronic diabetes, was bed-ridden after he suffered a minor heart attack in June 2012, followed by a paralytic attack in October the same year. "I had given up work and was unable to even make it to the bathroom on my own," says Gawli, whose blood sugar would fluctuate between 250 and 300.

Within a week of meeting Dr Mahajan this June, he says, he was able to gradually move his limbs, and cut down on medicines. "I simply follow a nutritious diet and exercise regularly," he says.

WORD OF CAUTION

A speedy recovery like Gawli's, caution experts, could be a placebo effect. Andheri-based diabetologist Dr Rajiv Kovil warns that blood sugar level is not the only parameter to take into account while examining the therapy's success. "What's wanted is a thorough study, undertaken with a larger sample size and a longer follow up," he adds.

In fact, no research has been conducted into the side-effects of stem cell therapy, experts rue. Dr Jotwani says the formation of a tumour on account of excess cell generation is a

likelihood. Additionally, there is no clarity on whether there's a chance of relapse. Doctors don't report such patients neither do patients step forward to bring it to the expert's notice.

DIFFERENT STROKES

Experts are also divided on method of treatment. While Dr Mahajan extracts stem cells from the patient's own bone marrow, Dr Altaf Patel, a Mumbai Central-based physician sources stem cells from a healthy donor's umbilical cord. Dr Patel, who has treated 20 odd diabetics over two years has a reason for his approach. "If a patient's own stem cells had the ability to repair, wouldn't they perform the function while in the body? I believe, reintroducing 'ineffective' cells is pointless. Which is where, the donor comes in."

While methods may vary, what doesn't is the money involved.

"Globally, between 40 per cent and 60 per cent healthcare and pharmaceutical companies are investing in research and development of stem cells," said Shailesh Gadre, MD of Stemade, India's only dental stem cell bank which offers extraction, processing and storage of cells harvested from dental pulp.

The treatment itself is expensive. While Jaggi paid Rs 2.5 lakh for two sessions, Gawli shelled out Rs 1.6 lakh for one session that lasted no longer than a day.

Ideally, argue industry observers, neither should have had to pay considering all stem cell therapy is at trial stage in the country. At present, only Bone Marrow Transplantation — in use since 1968 to treat blood and bone marrow diseases, blood cancers, and immune disorders — is an approved form of stem cell therapy.

All others can be only conducted as clinical trials only after approval from the Drug Controller General of India (DGCI), and for free after the patient signs a consent form. "What is going on across the country is simply not acceptable," says Dr Jotwani.

The therapy also falls in the legal grey area, as ICMR is still in the process of drafting regulations for it. The only guideline currently available is that any institution or individual using human stem cells should be registered under the National Apex Committee for the Stem Cell Research and Therapy (NAC-SCRT).

But for patients like Jaggi, who says she feels as young as she did in college, the therapy has, for now at least, granted a fresh shot at life. "My colleagues and students are yet to digest the transformation," she smiles.

growth hormones responsible for creating new capillary and blood vessels. They also activate residential stem cells in other body organs. They then trigger an epigenetic reaction, which means that cells which are not typically hormone producing ones start secreting hormones.

The stem cells then get differentiated into islet cells (which work together to regulate blood sugar), beta cells (that sense sugar in the blood and release the necessary amount of insulin to maintain normal blood sugar levels) and hormone cells. "Eventually, insulin resistance is reduced in patients and glucose breakdown begins," explains Dr Mahajan.

HOW IT'S DONE

A wide bore needle is used to extract 200ml of bone marrow, while another 200ml of adipose (fat tissue) is extracted from the same area along with 100cc of peripheral blood for platelet rich plasma (PRP). The bone marrow and adipose tissue are then sent for culture where stem cells are segregated and then 'activated'. Around 300-400 million of these cells are then transplanted into the patient through an IV.

Dr Mahajan says stem cells trigger a few reactions after entering the body, which results in reduced blood sugar levels.

First, they release chemicals and

ENGLISH CLASSES

SURABHI PILLAI

IS AN ASSOCIATE PROF AND SOFT SKILLS TRAINER WITH A PASSION FOR ENGLISH



Filthy rich

Good Morning! What's wrong with the word money? Without being apologetic, I think most of us can say that we work day in and day out to make money and why not? Why is it, then, that there are some who prefer to act holier than thou (someone who shows that he or she possesses superior virtues) and stick their snooty noses up in the air at the mere sound of the word. The rich have no qualms about their love for money.

Is it then, some, amongst the bourgeoisie (middle class) who snicker (scorns, looks down upon) and sputter (gasps) at the mere mention of money and continue their tirade against the stinking rich and make it their preferred vocation to find nasty explanations for the rich getting where they are.

'Stinking rich' incidentally is a term used for those who are extremely rich. Before you let your imagination get the better of you, let me add that the word 'stinking' is used as an intensifier, (a word that adds emphasis or stress) I'm sure they don't really 'stink'.

There is an interesting story behind the phrase. It is said that in the 19th century, the rich preferred to be laid to

rest in mausoleums (tombs) that were above the ground and did not like to be buried like commoners (Attitude, huh...). This was done with the belief that if the dead had been struck dead by mistake then, to rectify his mistake, the Grim Reaper allowed the dead to walk out of his or her coffin.

Unfortunately, for the dead body, because of being left out in the open, it stank (smelt) and that's how the phrase originated.

Shall I take up a query? A reader wants to know the origin of the word 'suicide'.

The word 'suicide' has been taken from Latin suicidium--sui, which means "of oneself" and cidium means "a killing".

If you're one of those who likes reading case studies then you must read Émile Durkheim's *Suicide*—a book written as a case study on suicide. David Émile Durkheim was a French sociologist and his book *Le Suicide* was originally written in French and later translated into many other languages; it was a cult (out of the ordinary) read of its times.

Okay, let's move on to something brighter.

The other day, a colleague of mine Professor S J Pathak used the term 'weighty problems' and we had a good laugh at it. Later I checked whether the term was correct (in reference to human weight) and to my surprise, (and to his, when

he reads this) I found out that the expression was right and the word 'weighty' can be used in relation with 'excess weight'.

The word 'weighty' can be used for different purposes:

1. Heavy, to mean having surplus weight
Example: The poor fellow has been inflicted with weighty problems (weight related) since childhood.

2. Oppressive or worrying problems
Example: Subjected to weighty problems, his face lost its sheen.

3. Of great importance
Example: Weighty matters were discussed at the conference.

4. Serious
Example: Weighty music was played at the man's funeral.

5. Having great power
Example: The politician's weighty argument left the crowd spellbound (fascinated).
Another example:

- Owing to his weighty problems (worrying), the weighty man (heavy) ate more. Despite, discussing weighty matters (important) the whole day with weighty people (influential), his problems remained. Then one day, while listening to some weighty music, (serious) he

got a weighty idea (influential, powerful); within no time, the weighty man (heavy) solved his problems and soon became almost weightless.

Have a lovely weekend.
Keep smiling...

You can write in to her at amfeatures@timesgroup.in

THE 2-MINUTE READ

SIGNS THAT SUGGEST ITS TIME TO 'TAKE A BREAK' FROM YOUR RELATIONSHIP



While in a relationship, no one wants to feel as though their relationship has failed or that they themselves have somehow failed. Here are some signs which indicate that it's time to take a break from your current relationship. To begin with, if you and your partner have stopped communicating and spending time with each other, you should take a few steps back and

re-evaluate your relationship, the *Huffington Post* reported. Though some amount of fighting is normal in relationships, if it becomes a routine and the only interaction between you and your partner, it's an indication that you need to give yourself a break from the relationship. If you and your partner don't have sex anymore and sleep in separate bedrooms, it's time to have a conver-

sation about it or take a break. When your relationship has more bad than good times, it's time to take a break and reassess how the relationship is really working for you. If your relationship doesn't make you happy and fulfilled, and you have started to think about life without your partner, taking a break would help you re-evaluate your feelings and relationship.