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ACCEPTED ABSTRACTS

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AMNIOFIX IN REFRACTORY KNEE PAIN

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The amniotic membrane is a constituent of placental tissue that protects and supports the fetus in utero. It is composed of extracellular matrix components such as collagen, fibronectin and laminin, contains many different growth factors and cytokines. The healing properties of amniotic tissue were first identified in 1910 where it was discovered that they help in healing refractory stalled wounds. However this immunologically privileged structure was lost to scientific community for close to 90 years until technological advances led to its being "rediscovered" in 2000. Author reporting his retrospective case series of 40 patients of variable age group who had failed all conservative treatment options including all other injections like steroids and viscosupplementation and were reluctant for surgery. Patients were injected with AmnioFix injection and were followed at four weeks and eight weeks and six months and contacted at one year. Failure rate was defined as improvement of <50% in VAS scale. 65% patients reported improvement in there VAS pain levels of more than 60% and 25% reported improvements of 50% and 10% did not have any improvement. The majority group above reported improvement in their walking distance. Based on above failure rate was 10-25% which was defined as need of other treatments/surgery. This retrospective review of cases suggests that AmnioFix can be used in treatment of refractory arthritic knee pain. To the best of our knowledge this is a second follow up series in English Literature elucidating the benefits of AmnioFix in osteoarthritis. As technology advances and price become affordable the research world will hear more about this product.

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THE GERMLINE SUGGESTS CANCER IS PHYSIOLOGIC

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The current effort in oncology is directed at uncovering tumor expressed genes and mutations. The thrust of "personalized oncology" is to uncover the unique signature of each tumor and to treat it accordingly. The view from the germline is quite different. Germline SNPs associated with breast, colon, lung, ovary, pancreas and prostate tumors reveal snow fields but not snowflakes. Not only do patients with the same pathologic diagnosis share SNPs, but these SNPs are shared by multiple tumors. Blockbuster drugs are to be expected, with effects on multiple cancers. Furthermore, the sheer number of involved genes (on the order of 10,000, or 1/3-1/2 of the genome) suggests that a large cellular program is involved in tumorigenesis. Differentiation comes readily to mind. Their 5000 germline SNPs appear to give them a recipe for differentiation therapy, useful for late stage disease, as well as a way to predict which tumor a person will get.

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IRREVERSIBLE LOSS OF FIBROMYALGIA STUDENT'S LESSONS LEARNT FROM ON-GOING COUNSELLING DURING FOLLOW-UP PHARMACY INSTITUTIONS IN INDIA

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Fibromyalgia has one of the leading causes of neurological disorders and stroke in pharmaceutical institutions. Health has the ability of a biological system convert into personal satisfaction. The World Health Organization (WHO) literature for human health in a broader sense in it's 1948 constitution as "A state of complete physical and well-being and not merely the absence of disease or infirmity". It has been subject to controversy, in particular as poor transportation facility in pharmacy institution lacking operational value, the ambiguity in developing low health strategies and because of the problem created by use of the word "social determinants of health", which makes it practically impossible to achieve healthy environments. Understanding student health and disease with the private based co-educational pharmaceutical institution has not a transportation facility and low-quality food in suburban areas of developing cities in India cannot ignore. Early decompressive adrenal insufficiency has accepted in medical science due to health imbalance. Fibromyalgia, especially from junior students to senior students living with private institution with poor quality of life and facility, can translate into permanent disability in the world. We cannot compare Fibromyalgia with joint pain. Fibromyalgia cannot ignore because it has weakened immunity has unfortunately not measured in the above series.

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GONOCYTE TRANSFORMATION INTO SPERMATOGONIAL STEM CELLS: THE KEY TO UNDERSTAND INFERTILITY AND MALIGNANCY OF CRYPTORCHIDISM

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Undescended testis (UDT) is a major health problem, affecting over 2% of new-born boys with increased infertility (30-60%) and testicular cancer (5-10 fold higher than normal males) later in life. Author have studied animal models in conjunction with human biopsies of UDT in order to understand the process of gonocyte transformation into spermatogonial stem cells (SSC) to elucidate how to prevent infertility and testicular cancer in cryptorchidism. We used testes from OG2 (Oct4-promoter-driving GFP transgenic mice), androgen knockout (ARKO), Bax knockout (BaxKO) and hypogonadal (hpg) mice and human biopsies for gene expression with real-time PCR and immunohistochemistry with antibody labelling followed by confocal imaging analysis. Serum and testes were collected from C57Bl/6 male mice for hormone analysis to examine mouse minipuberty. We have found that mouse gonocyte (Oct4+/C-Kit-) transformed into SSC (Oct4+/C-Kit+) between postnatal 2-6 days. There was transient testosterone surge at postnatal day 1-3 and gene expression of both FSH receptor and Oct4 peaked at postnatal day 3-6 in mouse. There were no difference for number of gonocytes transformed into SSC/tubule between ARKO mice and wild type littermates. Germ cells/tubule was significantly less in hpg mice comparing with wild-type littermates. Persisting gonocytes exist in BaxKO mouse testis and human testicular biopsies of UDT beyond six months old and germ cells/tubule significantly decreased whereas number of empty tubules without germ cells significantly increased with increasing age of orchidopexy. In conclusion, they found that minipuberty does exist in mouse which coincides with the gonocyte transformation into SSC like human. Gonocyte transformation in mouse is independent from androgen and disruption of apoptosis derange; the process causing persistent gonocytes which could be the source of malignancy. Orchidopexy at older age showed significant germ cell depletion and persisting gonocytes. The results suggest that FSH or/and non-androgenic factors may play an important role in gonocyte transformation into SSC.

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THERAPEUTIC ROLE OF MESENCHYMAL STEM CELLS SEEDED DERMAL MATRIX VERSUS ACELLULAR DERMAL MATRIX IN HEALING OF SKIN DEFECT

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Background & Objectives: One of the major challenges facing the surgeons is replacing a full-thickness skin loss successfully.

Aim: This study aimed at testing the efficacy of de-cellularized dermal matrix seeded with bone marrow-mesenchymal stem cells (BM-MSCs) as a scaffold for the repair of skin defect in rats in comparison to using acellular dermal matrix (ADM) alone.

Materials & Methods: A 2×2 cm2 size full thickness skin defect was created on the dorsum of 30 male Wister rats (200- 250g) under xylazine (5mg/kg) and ketamine (50mg/kg) anesthesia. The animals were then randomly divided into three equal groups: group I: the defect was left for spontaneous recovery, group II: the defect was repaired with ADM alone, and group III: the defect was repaired with ADM seeded with labelled BM-MSCs. The healing rate of the defect in all groups was assessed by measuring wound area and healing percentage twice weekly. The specimens from the wound site were obtained from all groups on day 14 and day 28 post-operative for histological analysis.

Results: Treatment of wound defect with BM-MSCs seeded dermal matrix resulted in complete wound recovery on gross examination. Moreover, histological analysis showed proper re-epithelization, proper collagen rearrangement together with minimal inflammatory cells. Well-developed hair follicles and sebaceous glands were noted as well. Statistically, 28 days post-operatively, significant increase in healing rate, healing area percentage and collagen area percentage was detected together with significant decrease in vascular density compared to group I and II.

Conclusion: Stem cells seeded ADM facilitated early and better healing of skin defect in rats than the non-seeded ADM and spontaneous healing.