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RESEARCH ARTICLE

MERKEL CELL CARCINOMA: A CASE REPORT

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Abstract

Merkel cell carcinoma is a rare but highly agressive skin tumor. MCC clinically represents as cutaneous or subcutaneous nodule, and in 30% of the cases loco-regional metastasis are already there in primary diagnosis. Pathogenesis is essentially due to excessive exposure to UV light. The confirmation diagnosis is based on histological and immunological features on the lesion. The treatment methods require a complete surgical excision and radiotherapy.

Introduction:-

Merkelcellcarcinomais a rare but highly agressive skin tumor. MCC clinicallyrepresents as cutaneous or subcutaneousnodule, and in 30% of the cases loco-regionalmetastasis are alreadythere in primarydiagnosis (1). Pathogensis isessentially due to excessive exposure to UV light (2). The confirmation diagnosisisbased on histological and immunologicalfeatures on the lesion (1) .Thetreatmentmethodsrequire a completesurgical excision and radiotherapy (3).

Case Report:

A 77 yearold male with a medicalhistoryoftype 2 diabetes and high blood pressure treated for 20years, burned inbothlegs due to a fire 10 yearsago.

The patient presents to the hospitalwith multipleindurated nodules.

Physicalexaminationshowsmanylesions: the main one wascauliflower-shaped,white, measuring 5 cm in diameters on the inside of the right leg. Itwasassociated to othersmallviolatedones. (Figure 1)

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Figure 1:-

The otherlesionwas in the right calf, ulceratedpolypoidcutaneousnodulemeasuring 4.5 cm in diameters. (Figure 2)

Figure 2:-

The recurrentlesionwasbiopsied from the first white nodule to confirm the diagnosis.
Pathologyexaminationrevealed, on the standard hematoxylin-eosinstain, dermal infiltration withsmall round cells, with highnuclear to cytoplasmic ratio and focal necrosis.

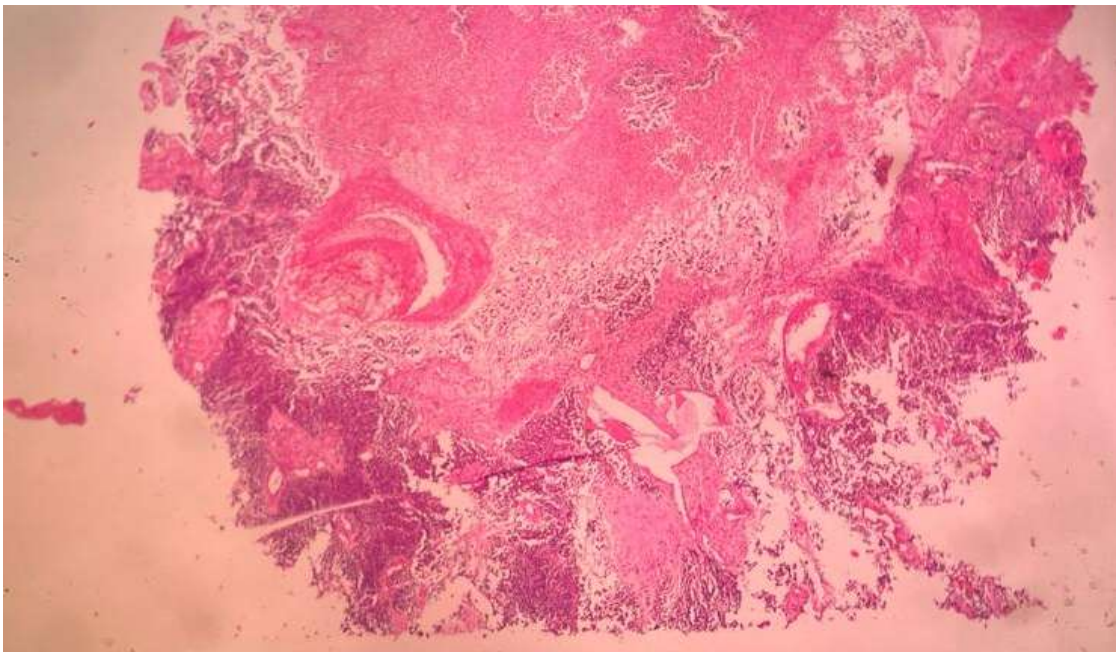

Figure 3: hematoxylin-eosinstain:Showing small round blue cells infiltrating the dermis, focalnecrosis.

Expandedimmunohistochemical panel revealedpositivity withepithelial marker (CK20) and neuroendocrine markers (synaptophysin, chromogranin and CD56).

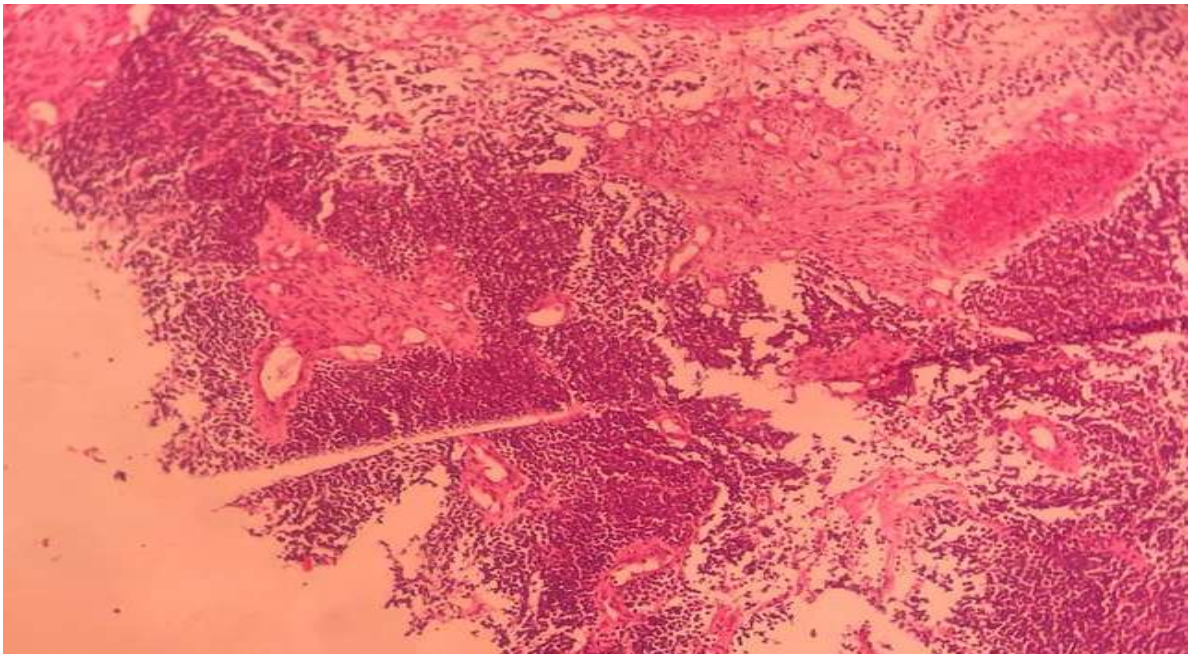

Figure 4:-Merkelcellcarcinomaat medium magnification showingsmallbluecells have a high N/C ration and hyperchromaticnuclei.

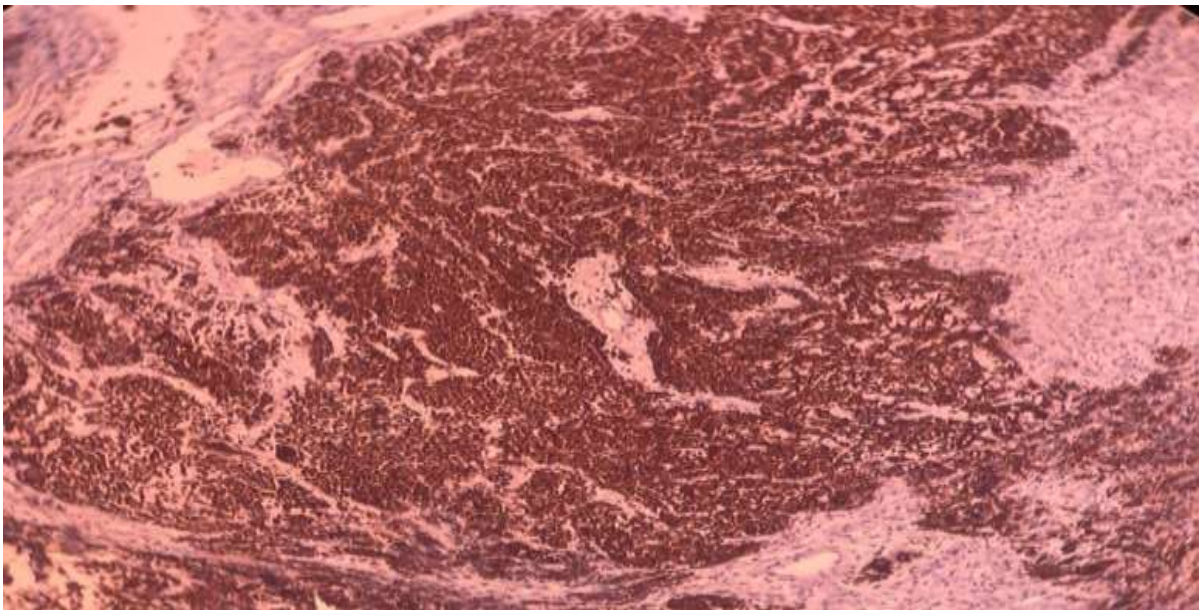

Figure 5: Diffuse cytoplasmicsynaptophysinpositivity.

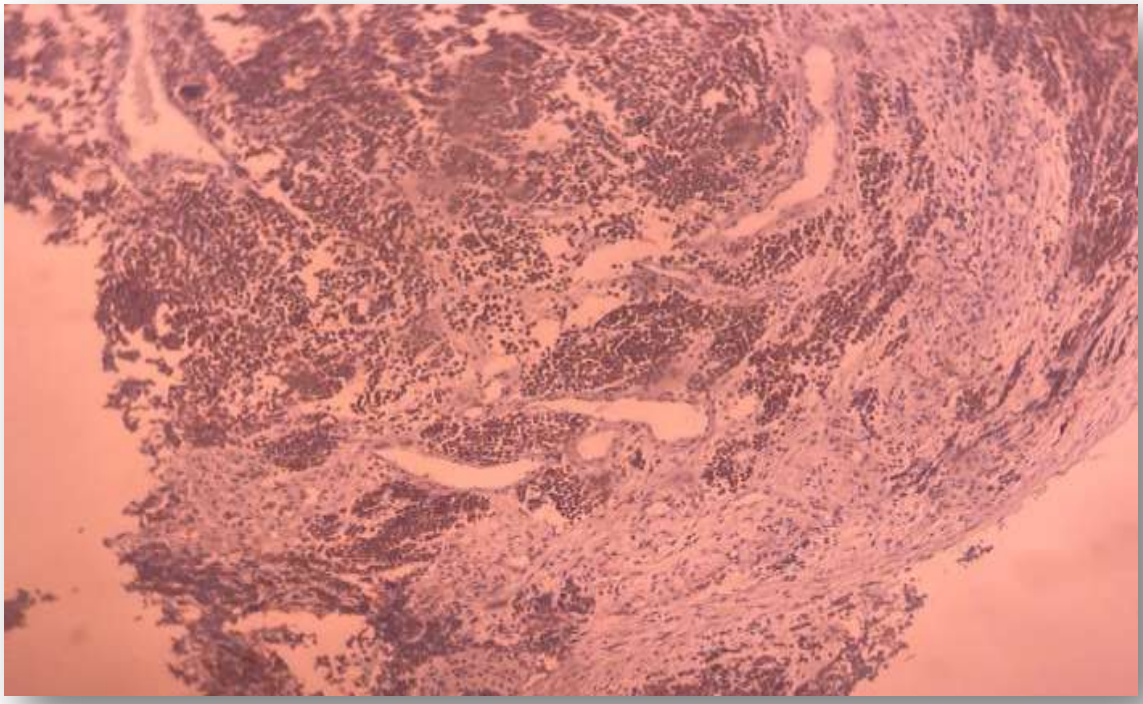

Figure 6:-Diffuse cytoplasmicchromograninpositivity in merkelcellcarcinoma.

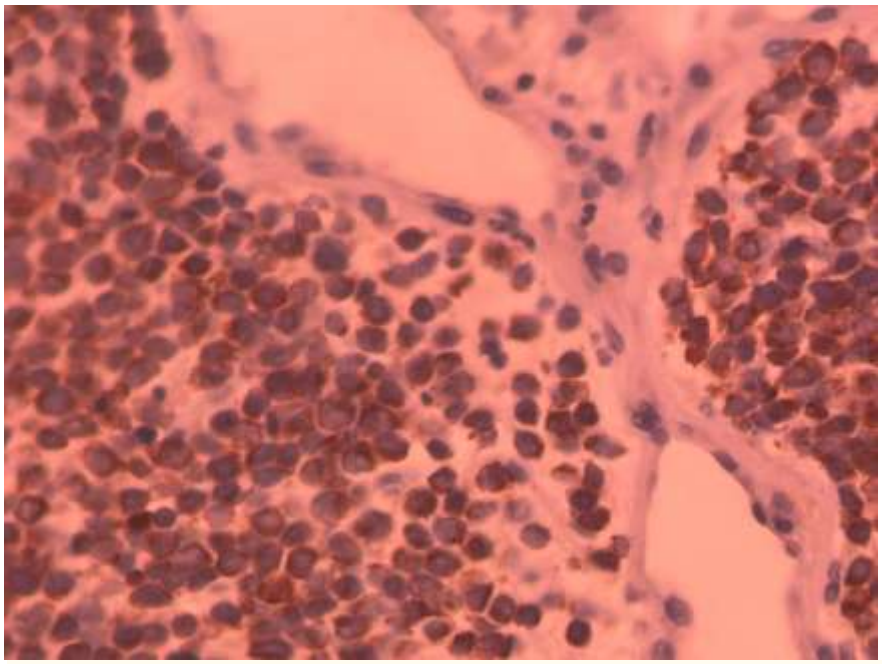

Figure 7:- Strongpositivity for cytokeratin 20 (CK20) staining, with a dot-likeperinuclear accentuation.

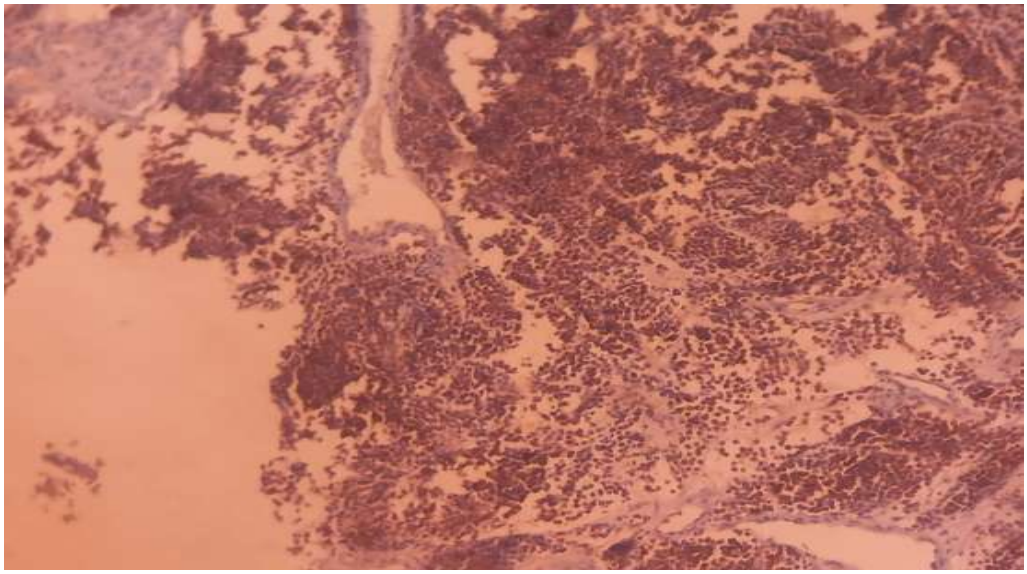

Figure 8:- CD 56 patternshowingstrongpositivity in neuro endocrine cells.

Discussion:-

Merkelcellcarcinomais a rare but highly aggressivetumor, itwasnamed due to the resemblancebetweentumorcells and merkelcells, which are present in the basal layer of the epidermis. (1)

MCC carcinogenesissuggeststwo main causes: the presence of clonallyintegratedmerkelcellpolyomavirus, or chronic exposure to UV lights (1). Infact, UV exposurecanalsoplay a role in the viral cause by causing local immunosuppression (4).

Diagnostic indicators for the recognition of MCC canbedescribed by the acronym AEIOU (A-asymptomatic; E-rapid expansion; I-immune suppression; O-over 50 years; U-UV-exposed skin). (2)

MCC presents as nodules on sun damaged skin in elderly, and it has a highlymetastatic profile. (3)It is rapidlygrowing ,cutaneous or subcutaneous nodules onsunexposed areas , (5,7) asymptomatic in most cases , thattheycanbeconfused withotherbenignlesions (inflammatory or cyst) . (6)

However, clinicalfeatures are not enough to confirm the diagnosis, histological and immunochemistryanalysiscanconfirmit. In standardhematoxylineosinstain, itpresents as smallblue round monomorphiccellswith a highnuclear to cytoplasmic ratio and iscomposed of dermaland/or subcutaneous nodules or sheets (8)

There are three main types of MCC that has been described : small-cell, trabecular and intermediatebut most cases present with overlappingfeatures, and the classification of MCC according to thesethreevariantsdoes not have practical implications(1).Infiltrative (ratherthancircumscribed) growth pattern and the presence of lymphovascular invasion have been associated with increasedrisk of microscopic nodal metastases and a poorprognosis (1).

Immunohistochemicaltumorcellsmostly express cytokeratins, more specifically CK 20. Andalsoneuroendocrine markers such as chromogranin and synaptophysin (1)

Differentialdiagnosisisbasicallywith metastaticsmall-cellcarcinoma ,thatalso shows as smallblue round cellmorphology , but the positive staining for TTF1 and negativestaining for CK20 helps to makes the difference (1).

As for treatment ,surgical**exision** with 1-2 cm **resection**margins isrequired , followed by adjuvant radiotherapy .(9) howeverlargerexision for biggerlesions cause morbidity for the patients ,such as lose of function and the need for skin graft , and thisshouldbeavoided , in that case some MCC treatments guidelines suggestonlyradiotherapycould be effective . (10)

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