Mini Review
Volume 7:5, 2022

Journal of Diabetic Complications and Medicine

ISSN: 2475-3211 Open Access

Diabetic Peripheral Neuropathy, as Determined by the Sural Nerve Conduction Study

Ioannis Nezis*

Department of Life Sciences, University of Warwick, Gibbet Hill Campus, UK

Abstract

The morphology of fungi in the Zoopagaceae and Cochlonemataceae (Zoopagales, Zoopagomycotina,Zygomycota) is reviewed, and some new ultrastructural information on conidia and zygospores, as well as haustoria and vegetative thalli in the former, is added. In ultrathin sections, the cell wall of Acaulopage dichotoma, Ac. tetraceros, Stylopage cephalote, Zoophagus insidians, and Zph. tentaclum (Zoopagaceae), as well as Cochlonema odontosperma and Endocochlus gigas, is known to be composed of outer electron-dense and inner less dense layers, and no additional cell walls were found Although two nuclei were discovered in the zygosporangium before maturation to the zygospore in Acaulopage rhaphidospora, more than one nucleus had never been observed in an ultrathin section of a zygospore in either of these families.

Keywords: Zph • Fungi • Zoophagus • Tetraceros

Introduction

Zoopagaceae and Cochlonemataceae are currently classified as Zoopagales, Zoopagomycotina, and Zygomycota, along with three other families helicocephalidaceae, sigmoideomycetaceae, and Piptocephalidaceae. Acaulopage, cystopage, stylopage, Zoopage, and Zoophagus are members of the zoopagaceae, whereas amoebophilus, aplectosoma, bdellospora, cochlonema, endocochlus, and Euryancale are members of the Cochlonemataceae. According to Saikawa, 99 species and six varieties of parasites of microscopic animals such as rhizopods, nematodes, and rotifers have been identified in the two families. However, acaulopage tigrina ciccarone was excluded from the list of 99 species because the organism lacks any vegetative hyphae or thalli. After adhesion, the vegetative hyphae of zoopagaceae fungi develop haustoria or infection hyphae into the host animals to absorb nutrients. Hosts include testaceous and non-testaceous rhizopods, as well as nematodes, rotifers, and a Gastrotrich species. The shape and size of haustoria and infection hyphae vary depending on the fungus species; for example, the lobes of the haustorium in Ac. rhaphidospora are short and thin, those in S. cephalote are short but thick, those in Ac. tetraceros are long and thin, and those in Zph. insidians infecting rotifers grow throughout the entire body of the rotifer [1].

Description

Apoptosis (type I PCD) is a controlled process of self-destruction that is involved in a variety of diseases. We discovered proteolytic cleavage by caspases, cell shrinkage, DNA inter-nucleosomal fragmentation, phosphatidylserine exposure, blebbing of the plasma membrane, formation of apoptotic bodies, and loss of mitochondrial membrane potential with cytochrome c release to the cytosol among apoptotic features in mammalian cells. The autophagosomal-lysosomal system is involved in autophagic cell death (type II PCD).Autophagosomes are double-membranous vesicles that engulf cytoplasmic constituents during organelle turnover. Microtubules are dynamic structures that are critical in eukaryotic cells. Microtubules are involved in four critical processes in trypanosomatids: sub-pellicular are involved in protozoa structural maintenance; flagellar are involved in motility; basal body and mitotic spindles are involved in cell division; and the cytosome is involved in endocytosis. Microtubules have been extensively studied as drug targets for a variety of diseases, particularly cancer and parasitic infections, due to their central role in cellular physiology. Taxol, isolated from Taxus brevifolia, stabilises microtubules, preventing disassembly and thus mitosis, and dinitroaniline trifluralin is a microtubule disrupting herbicide that binds to plant tubulin, inhibiting polymerization, inducing multinucleation, and also inhibiting mitosis [2].

It is well known that GG-OH causes apoptosis in tumour cell lines. According to our findings, the mitochondrion is critical in the GG-OH mode of action. This organelle, in addition to its role in energetic metabolism, serves as an important checkpoint in apoptotic signalling pathways. Our findings led us to the conclusion that GG-OH action is mediated by a type of PCD. The close relationship between endoplasmic reticulum profiles and myelin-like proteins [3,4]. Most dendritic spines are decorated by a protein supercomplex associated with the membrane, which forms the post-synaptic component of a glutamatergic synapse and is referred to as post-synaptic density (PSD). An average PSD has a total mass of about 1 GDa, which is equal to about 10,000 protein molecules. PSD appears as a dark disc under an electron microscope due to the high protein concentration. A type I PSD is found in dendritic spines, which means the thickening is visible and extends slightly into the dendritic spine head. This is typical of excitatory PSDs, whereas inhibitory synapses have no or little thickening and are classified as type II PSD, despite the fact that a more detailed 5-class classification has also been proposed. We compared ultra-structural changes at glutamatergic synapses in the hippocampus after LTP induction and memory task training. This comparison allows us to investigate whether LTP can be induced after training in a memory task, as well as whether other types of synaptic plasticity underpin learning and memory. Our review shows that after training, there is transient synaptogenesis in the hippocampus, which was not seen during LTP. This transient synaptogenesis may result in neuronal rewiring, but its role in memory processes warrants further investigation.Furthermore, there is evidence that after training in a memory task, there is a long-lasting increase in PSD volume, which is also characteristic of LTP. Surprisingly, this morphological change in PSD occurs in the absence of significant growth [5].

Conclusion

***Address for Correspondence:** Ioannis Nezis, Department of Life Sciences, University of Warwick, Gibbet Hill Campus, UK, E-mail: nezisloannisp@gmail.com*

Received: 02 September, 2022, Manuscript No. jdcm-23-86170; **Editor Assigned:** 04 September, 2022, PreQC No. P-86170; **Reviewed:** 16 September, 2022, QC No. Q-86170; **Revised:** 21 September, 2022, Manuscript No. R-86170; **Published:** 26 September, 2022, DOI: 10.37421/2157-2475-3211.7.185

Taken together, ultrastructural studies in recent years have taught us that synapses and their changes are more complex than previously thought, and that we must take this into account to properly appreciate memory processes in the brain. It is still unknown whether behavioural training is linked to ultrastructural changes observed during LTP, such as increased frequency of dendritic spines with SER and polyribosomes or increased correlation of PSD and dendritic spine volume. Finally, it is unknown what the long-term ultrastructural consequences of the training that results in LTD are.

Acknowledgement

None.

Conflict of Interest

There are no conflicts of interest by author.

References

1. De la Fuente-Núñez, César, Sarah C. Mansour, Zhejun Wang and Lucy Jiang, et al. "Anti-biofilm and immunomodulatory activities of peptides that inhibit biofilms formed by pathogens isolated from cystic fibrosis patients." *Antibiotics* 3 (2014): 509-526.
2. De la Fuente-Núñez, César, Fany Reffuveille, Evan F. Haney and Suzana K. Straus, et al. "Broad-spectrum anti-biofilm peptide that targets a cellular stress response." *PLoS Pathog* 10 (2014): e1004152.
3. Grassi, Lucia, Giuseppantonio Maisetta, Semih Esin and Giovanna Batoni. "Combination strategies to enhance the efficacy of antimicrobial peptides against bacterial biofilms." *Front Microbiol* 8 (2017): 2409.
4. Fuertes, Gustavo, Diana Giménez, Santi Esteban-Martín and Orlando L. Sánchez-Munoz, et al. "A lipocentric view of peptide-induced pores." *Eur Biophys J* 40 (2011): 399-415.
5. Relucenti, Michela, Giuseppe Familiari, Orlando Donfrancesco and Maurizio Taurino, et al. "Microscopy methods for biofilm imaging: Focus on SEM and VP-SEM pros and cons." *Biol* 10 (2021): 51.

How to cite this article: Nezis, Ioannis. "Diabetic Peripheral Neuropathy, as Determined by the Sural Nerve Conduction Study." J Diabetic Complications Med 7 (2022): 185.