

Chiarella Bozzo

Curriculum vitae

PERSONAL DATA

Born in Casale Monferrato (AL) on 28/12/1953

BIO AND EDUCATION

Degree of scientific maturity, "Liceo Palli" Casale Monferrato, 1972

Master Degree in Biological Science, Università di Torino, 1977

Postgraduate Diploma in Biochemistry, Università di Pavia, 1985

UNIVERSITY CAREER

2004-	Researcher,, Università del Piemonte Orientale
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MAIN FIELDS OF INTEREST

1. integrin
2. neurodegenerative disease
3. ulcer

CURRENT ISSUES OF RESEARCH

1. **Title** Role of integrins in the neurotoxicity of β -amyloid peptide, the principal constituent of the senile plaques (Alzheimer's disease).

Abstract – The β -amyloid peptide (β AP) is the main constituent of senile plaques found in the brains of patients with Alzheimer's disease, the most common form of primary degenerative dementia. To affirm the pathogenic role of β AP contributed The demonstration "in vitro" that both the protein in whole form (1-40 / 42) and the active fragment (25-35) induces neuronal death, supporting the amyloidogenic hypothesis of the disease Alzheimer's, according to which the extracellular deposits of β AP would be at the origin of the sequence of neuropathological events. Since the cell-matrix adhesion mediated by integrins is necessary for the survival of nerve cells, we evaluated the possible relationship between induced apoptosis β AP and the expression of integrins. The cells grown in suspension or plated on poly-L-lysine present basal apoptosis, which

is seriously increased after treatment with β AP. In the presence of fibronectin or laminin or collagen, the toxic action of β AP is yet detectable, but apoptosis measured in these conditions is greatly reduced compared to that measured on cells grown in the absence of matrix proteins. Masking integrin β 1 with a specific antibody causes a significant increase in apoptosis induced by β AP. In addition, the integrin expression analysis showed that treatment with β AP induces a strong reduction of the integrin β 1 membrane level, associated with a decreased expression of α 1 subunits. The fall of expression occurs earlier than the appearance of the apoptotic phenotype, being evident already after a few hours of treatment with β AP. The data obtained, indicate a possible relationship between the neurotoxicity of β AP and down-regulation of integrin complex α 1 β 1, suggesting that apoptosis induced by β AP can depend at least in part, by the cell-matrix interaction mediated by integrins.

2. Title Role of keratinocytes and fibroblasts in the repair of ulcerative skin lesions.

Abstract – Tissue repair after cutaneous injury is a highly dynamic complex that can be divided into an inflammatory phase, a granulation phase with matrix formation and reepithelialization, and finally a remodeling phase. Different cell types, growth factors, and chemokines interact during these three stages.

Keratinocytes, fibroblasts, and endothelial cells migrate and proliferate to restore the skin barrier and produce growth factors and cytokines that are involved in the paracrine signaling.

TOP FIVE PAPERS

1. INTEGRIN INDUCE ACTIVATION OF EGF RECEPTOR: ROLE IN MAP KINASE INDUCTION AND ADHESION-DEPENDENT CELL SURVIVAL.

EMBO J. 17:6622-6632, 1998

L.Moro, M.Venturino, C.Bozzo, L.Silengo, F.Altruda, L.Beguinet, G.Tarone, P.Defilippi.

2. INVOLVEMENT OF β 1 INTEGRIN IN β AP-INDUCED APOPTOSIS IN HUMAN NEUROBLASTOMA CELLS.

Molecular and Cellular Neuroscience 25:1-8, 2004

C. Bozzo, G. Lombardi, C. Santoro, P.L. Canonico.

3. ESTROGEN AND β -AMYLOID TOXICITY: ROLE OF INTEGRIN AND PI3-K.

Molecular and Cellular Neuroscience 45: 85-91, 2010

C. Bozzo, F. Graziola, A. Chiocchetti, P.L. Canonico.

4. A *MYCOBACTERIUM ULCERANS* TOXIN, MYCOLACTONE, INDUCES APOPTOSIS IN PRIMARY HUMAN KERATINOCYTES AND IN HACAT CELLS

Microbes and Infection 12: 1258-1263, 2010

C. Bozzo, R. Tiberio, F. Graziola, G. Pertusi, G. Valente, E. Colombo, P.L.C. Small, G. Leigheb.

5. SELECTIVE RELEASE OF CYTOKINES, AND GROWTH FACTORS BY MINCED SKIN IN VITRO SUPPORTS THE EFFECTIVENESS OF AUTOLOGOUS MINCED MICROGRAFTS TECHNIQUE FOR CHRONIC ULCER REPAIR.

Wound Repair and Regeneration 20: 178-184, 2012

G. Pertusi, R. Tiberio, F. Graziola, P. Boggio, E. Colombo, C. Bozzo.

AWARDS

1. In 1990 she was awarded the Premio Gianfranco Lenses, set up by the Italian Society of Diabetology at the National Congress of Pisa. The prize was awarded for the personal communication: C. Bozzo et al. - Insulin pump stimulates Na, K-ATPase in human lymphoblasts: short and long term effects. Diabetes 2 (suppl. 2): 49-52, 1991.

FURTHER INFORMATION