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British Neuro-oncology Society: Abstract submission 2012

No.	O / OP / P (To be completed by BNOS)
Submission date	
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Title of abstract	Anti-cancer effects and mechanism of actions of aspirin analogues in the treatment of glioma cancer.
Abstract authors	V Petinou, ID Nicholl, J Singh, RW Lea, PJ Welsby
Abstract **Maximum:** **250 WORDS** **1750 CHARS** **(with spaces)** **No references**	INTRODUCTION In the past 25 years only modest advancements in glioma treatment have been made, with patient prognosis and median survival time following diagnosis only increasing from 3 to 7 months. A substantial body of clinical and preclinical evidence has suggested a role for aspirin in the treatment of cancer with multiple mechanisms of action proposed including COX 2 inhibition, down regulation of EGFR expression, and NF-κB signaling affecting Bcl-2 expression. However, with serious side effects such as stroke and gastrointestinal bleeding, aspirin analogues with improved potency and side effect profiles are being developed. METHOD Effects on cell viability following 24 hr incubation of four aspirin derivatives (PN508, 517, 526 and 529) were compared to cisplatin, aspirin and di-aspirin in four glioma cell lines (U87 MG, SVG P12, GOS – 3, and 1321N1), using the PrestoBlue assay, establishing IC_{50} and examining the time course of drug effects. RESULTS All compounds were found to decrease cell viability in a concentration and time dependant manner. Significantly, the analogue PN517 (IC_{50} 2mM) showed approximately a twofold increase in potency when compared to aspirin (3.7mM) and cisplatin (4.3mM) in U87 cells, with similar increased potency in SVG P12 cells. Other analogues demonstrated similar potency to aspirin and cisplatin. CONCLUSION These results support the further development and characterization of novel NSAID derivatives for the treatment of glioma.