tisis was reduced in 16 of 20 patients. Complications: pneumonia - 4 patients, bronchitis - 5. There was no treatment related mortality. The complications caused by the photosensitizers were not observed.

**Conclusions:** Photodynamic therapy with chlorine photosensitizers is effective in palliation of inoperable lung cancer and the low rate of complications. Patients were not followed up, quality of their life and survival rate is estimated.

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**P3-039**  NT: New Horizon and Others Posters, Wed, Sept 5 – Thur, Sept 6

**New method for delivering cytostatic drugs to the lung: selective pulmonary artery perfusion for the treatment of lung cancer**

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**Introduction:** Lung cancer represents a major health problem. Cyto-static and radio-therapeutic treatment are both limited due to dose-limiting systemic toxicity and surgery due to its invasive nature. Therefore, we developed a catheterisation model of selective pulmonary artery perfusion (SPAP) combining the properties of isolated lung perfusion and intravenous treatment to achieve higher local drug levels and equivalent systemic exposure.

**Material and Methods:** Sixteen pigs underwent SPAP of the left pulmonary artery using a clinically applied dose and volume of gemcitabine (1g/m² solved in 50mL) administered by a balloon infusion catheter. They furthermore underwent left thoracotomy for tissue sampling. Three groups were treated with SPAP for two minutes with normal pulmonary blood flow, 50% and 90% flow reduction by performing partial balloon insufflation. Another group had SPAP for ten minutes with normal pulmonary blood flow. An additional group (n=4) was infused intravenously (IV) for thirty minutes using the same dose and volume. Concentrations were measured by high-performance liquid chromatography and analysed with ANOVA.

**Results:** Pulmonary peak concentrations (p=0.01) and areas under the curve (AUC) (p=0.001) of SPAP for two and ten minutes were significantly higher compared to IV while SPAP for ten minutes resulted in the highest AUC (p=0.045) compared to SPAP for two minutes. Flow reduction during SPAP resulted in inhomogeneous distribution. Liver levels, AUC (serum) and wet-to-dry ratios of all SPAP groups were not significantly different compared to IV. Histological examination did not show any signs of acute pulmonary toxicity like oedema or bleeding.

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**Sinomenine inhibits proliferation and apoptosis induction in lung cancer cells**

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**Objective:** Sinomenine, an alkaloid extract from the Chinese medicinal plant Sinomenium acutum, has a wide range of pharmacological actions. Here, we examined whether sinomenine possesses anti-lung cancer properties.

**Methods:** The human A549 lung cancer cell line and the murine Lewis lung carcinoma cell line were used in this study. The cells were treated with sinomenine (0.1, 0.2, 0.4, 0.625, 1.25 or 2.5 mM) for 24, 48 or 72 h. Cellular proliferation was evaluated with a CCK-8 assay. Cell cycle phase distribution and apoptosis were examined by flow cytometry.

**Results:** Sinomenine treatment inhibited cellular proliferation (P<0.01) in a time and dose-dependent manner. Cell cycle analysis showed that the percentage of cells in G1 stage in the sinomenine-treated groups was significantly greater, while the percentage of cells in S stage was significantly less than in the control group. The apoptosis assay showed that the apoptotic cell rate in the sinomenine-treated groups was significantly elevated in a time and dose-dependent manner (P<0.05 vs. controls).

**Conclusion:** Sinomenine can effectively inhibit proliferation of A549 and Lewis cancer cells. The cell cycle arrest and apoptosis induced by sinomenine treatment may underlie, at least in part, the purported anti-cancer effects of this extract. If so, sinomenine may be developed into an effective treatment against lung tumors.