OHP-008

ANALYSIS OF COSTS AND CONSUMPTION OF MEDICAL DEVICES FOR EXTRACORPOREAL PHOTOCHEMOTHERAPY IN SIENA'S UNIVERSITY HOSPITAL (AOUS)

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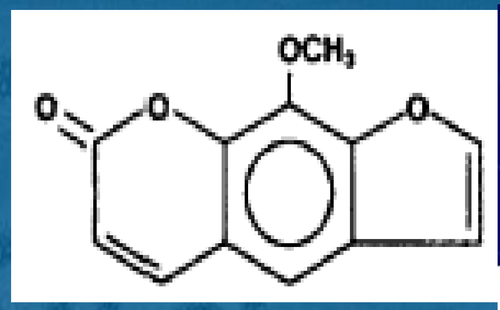
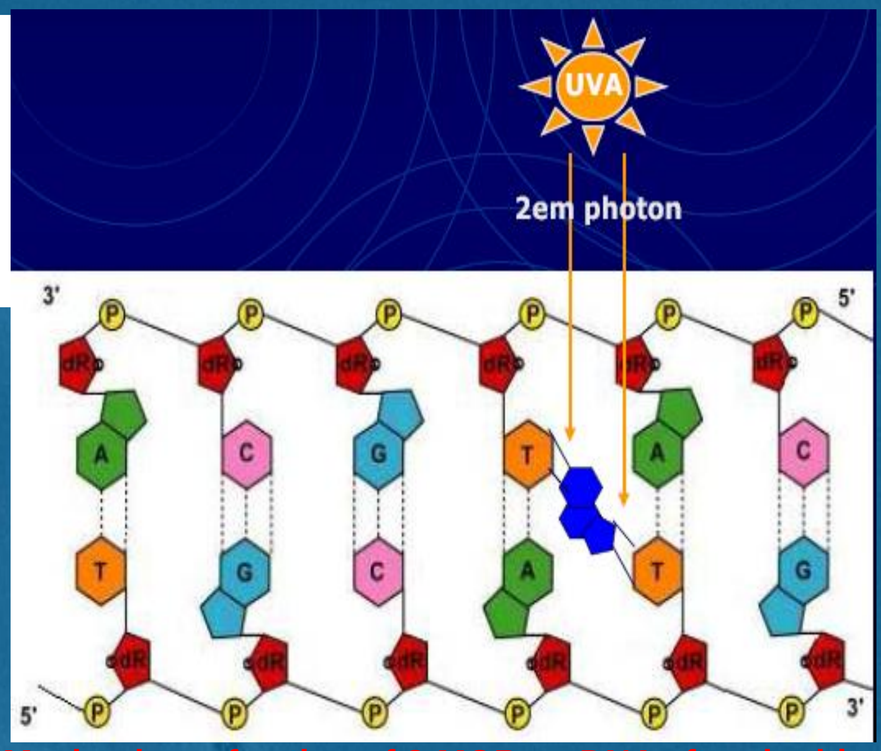
BACKGROUND

Extra-corporeal photochemotherapy (ECP) is a procedure that exposes mononuclear blood cells, obtained through centrifugation, to ultraviolet irradiation, in presence of the DNA binding agents such as 8-methoxypsoralen (8-MOP). Two methods can be used :

- **ON-LINE**, which consist of irradiation of cells through extracorporeal circulation (the only method used in AOUS until 2011)
- **OFF-LINE**, which consist of leukapheresis of concentrated lymphomonocitary cells, irradiation and subsequently reinfusion (this method was introduced in AOUS in 2012)



8-MOP structure



Mechanism of action of 8-MOP on DNA after double UV-irradiation

PURPOSE

The objective of this study was to analyze the costs and consumption data of Medical Device (MD) necessary for ECP in the period 2007-2011, and make a prediction of costs and consumptions in the light of the introduction of the new method.

MATERIALS AND METHOD

We analyzed the costs and consumption data of the MD used in ECP in AOUS, extrapolating from informatical database of the hospital. Then an estimation of consumption and costs over the period was calculated . Literature data and technical specifications of the MD were also consulted to find the indications for which the ECP is indicated.

RESULTS

The ECP is mainly used for the T-cell-mediated diseases such as organ transplant rejection, Systemic sclerosis, bullous pemphigus, acute and chronic Graft-versus-host-disease (GvHD).The period considered to have the highest consumption was in 2008, with 956 kit consumed (spending € 756,099.96) and 5 UV lamps (€ 7,987.50). In subsequent years, there was a progressive decrease in consumptions. The average consumption is 867 kit/year, with cost/year of € 767,178.82. The cost of a kit for ECP off-line is € 300.99 and a kit for leuko-apheresis is € 169.4. The estimated annual cost of the product by the use of the off-line method would be € 409,922.21, versus € 914,080.83 using the on-line method.

COSTS AND CONSUMPTION OF ONLINE METOD

	2007		**2008**		*2009*		*2010*		*2011*		*2012*	
	Quantity	*Value €*	**Quantity**	**Value €**	*Quantity*	*Value €*	*Quantity*	*Value €*	Quantity	Value €	Quantity	Value €
ECP KIT code XT125	724.00	*579,427.16*	**956.00**	**765,099.96**	*928.00*	*742,691.14*	*928.00*	*742,691.17*	800.00	640,250.99	200.00	160,062.74
UV LAMP FOR ECP code XT20	3.00	4,792.50	**5.00**	**7,987.50**	*3.00*	*4,792.50*	4.00	6.390.00	4.00	6,390.00		

CONCLUSION

With the use of the off-line method and the prices of the new contract, AOUS would save 55% compared to the previous increase cost equal to € 504,158.62. A further saving factor is represented by the fact that the lamps for the ECP with the new contract are provided free of charge. This will allow a better reallocation of economic resources saved.

ON-Line Value	914,080.83
OFF-LINE Value	**409,922.21**

55% RESOURCES SAVED!!!!

BETTER USE OF SAVED RESOURCE IN THE AOUS