



Noroxycodone concentration in oral fluid: A retrospective study

Margaux Garnier, Cynthia Coulter, Christine Moore
Immunalysis Corporation, Pomona, CA, U.S.A.



Introduction

- Detection of metabolites in oral fluid can be helpful for medical monitoring clinics that need to determine if the drug is in fact being ingested and is metabolized by the body.
- Oxycodone confirmation data from oral fluid samples received into our laboratory were reexamined.
- Previously confirmed samples were re-extracted and analyzed for oxycodone and its metabolites noroxycodone and oxymorphone.

Objective

- To analyze previously confirmed oxycodone positive samples in order to determine a metabolite profile for oxycodone.

Methods

- Oral fluid samples were retrospectively analyzed using LC-MS/MS for oxycodone and its metabolites noroxycodone and oxymorphone.
- Specimens which confirmed above 10ng/mL for oxycodone, noroxycodone, and oxymorphone were noted.



Oral Fluid

Concentration of Oxycodone and Noroxycodone in Oral Fluid Specimens

<i>Specimen ID</i>	<i>OXYC (ng/mL)</i>	<i>Nor-OXYC (ng/mL)</i>	<i>%</i>	<i>Specimen ID</i>	<i>OXYC (ng/mL)</i>	<i>Nor-OXYC (ng/mL)</i>	<i>%</i>
1	21			17	113	10	8.8
2	23			18	146	30	20.5
3	24			19	150	19	12.7
4	24			20	173	10	5.8
5	27			21	183	36	19.7
6	28			22	209	70	33.5
7	29			23	267	37	13.9
8	34	17	50.0	24	274	87	31.8
9	45			25	280	43	15.4
10	48			26	445	27	6.1
11	60	10	16.7	27	530	26	4.9
12	80	20	25.0	28	541		
13	92	12	13.0	29	1277	98	7.7
14	97					Mean	17.6%
15	103	11	10.7			Median	14.6%
16	104	22	21.2			Range	4.9% - 50%

Results

- Of 29 specimens analyzed, 18 specimens confirmed for both oxycodone and noroxycodone.
- None of the samples confirmed for oxymorphone above 10ng/mL.
- The percentages of noroxycodone to oxycodone in those samples ranged from 4.9% to 50%.
- This wide range may be accounted for by the variability in dosage; the time of dosage and oral fluid collection; and the period of time the samples were stored since this was not a controlled study.
- The average percentage of noroxycodone to oxycodone in oral fluid was 17.6%.

Conclusion

- Noroxycodone is a major metabolite of oxycodone in oral fluid.
- Monitoring noroxycodone would validate that the patient in question is in fact taking the drug.
- Future studies will focus on fresh samples analyzed in real time in order to better monitor oxycodone metabolites.

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